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THE

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1837.

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MEMOIR OF BRUCE.

ALTHOUGH the claims of Bruce, the African Traveller, as a benefactor to science, belong rather to Geography than Natural History, yet from the importance of his discoveries as enlarging the means of human knowledge, and opening up an unexplored region to future adventurers in the same path, his name well deserves a place in the catalogue of distinguished men who have contributed to the advancement of Natural Science. The interesting countries through which he penetrated have been repeatedly visited by Europeans since his time; but with him rests the merit of having first excited that thirst for information respecting their antiquities, manners, and productions, which has led so many enterprising travellers to the same fountain.

Abyssinia, the most prominent theatre of Bruce's discoveries, had then aroused no spirit of inquiry in Great Britain; and it was nearly as little known to the inhabitants of this part of the world, even up to the middle of the last century, as it was in the days of Herodotus and Strabo. From the Mosaic record we learn that the Jews were acquainted with

"Ethiopia above Egypt," which corresponds to the Nubia and Abyssinia of modern geography. The knowledge of these districts possessed by the Greeks and Romans was chiefly traditionary, derived from the merchants of the Red Sea, who imported into Egypt the rich products and manufactures of Arabia, Persia, and India. But their poets and philosophers universally regarded that mysterious region as the cradle of those arts which, at a later period, covered the kingdom of the Pharaohs with so many wonderful monuments and stupendous edifices; as also of those religious rites, which, after being slightly modified by the priests of Thebes, were adopted by the predecessors of Homer and Virgil as the basis of their mythology.

From the days of the Ptolemies, or about the beginning of the Christian era, more than a thousand years passed away, during which no European acquired any knowledge of that remote land, or set a foot within its borders. Its history is shrouded in utter darkness; and we can only conjecture that the Mohammedan conquerors, after subduing the Greek province of Egypt, or more probably some of the barbarous native hordes, more potent than the rest, may have established their dominion in the desert, and extinguished in their civil wars those lights of civilization which once illumined the fabled regions of ancient Meroe. The only gleams of intelligence that break occasionally through that long night of historical silence, are the feeble rays of uncertain information afforded by the early Christian writers,

who laboured to connect the ecclesiastical affairs of that country with those of the patriarchate of Alexandria.

It was not until the epoch when the Portuguese, attracted at once by their love of gold and their zeal for making converts to the Romish faith, penetrated into Eastern Africa, that any degree of knowledge was obtained respecting its political condition, or its natural productions. The grand object of their maritime as well as their missionary exertions, was, as is well known, to reach the territory of that celebrated and mysterious personage called *Prester John*, whom they believed to be the king of the Christians and emperor of Ethiopia. Their pious curiosity was at length rewarded by the discovery, or the supposed discovery, that the dominion of this second Melchizedek was no other than Abyssinia. The error indeed was afterwards detected, but it had the effect of stimulating their apostolical zeal, and obtaining from eye-witnesses a more enlarged and accurate account of the country than had then reached Europe. The travels of the Jesuits in the sixteenth century, while labouring to propagate their faith among the natives, are detailed in the Collection compiled by Father Balthazzar Tellez, whose curious volume may be regarded as the first attempt to compose a general history of Ethiopia.

One of these missionaries, Peter Paez, who set out in 1589, is generally alleged to have visited the sources of the Nile; at least his description of them, as quoted by Kircher, strongly resembles that after-

wards given by Bruce. Jerome Lobo, another of these missionaries, who resided there nine years, and whose History was translated by Dr. Samuel Johnson, also describes the "coy fountains" of that celebrated river, as if he had seen them; but whether he actually visited them, or merely wrote from information communicated by others, has never been clearly ascertained. The names of Ludolf and Geddes are familiar as having written on Abyssinia; but since the journey of Poncet (1698), who visited Sennaar, Gondar, and other Abyssinian towns, a long interval had elapsed, during which the name of the country was almost forgotten; and no traveller seemed inclined to revive it, until the romantic spirit of Bruce turned his attention to those neglected regions, in the hope of tracing the hidden fountains of the Nile; a problem which had excited, without rewarding, the curiosity of men of science from the earliest ages.

James Bruce, of Kinnaird, was descended of an ancient Scottish family which claims kindred with the royal hero of that name who restored the independence of his country on the field of Bannockburn. He was born at Kinnaird House in Stirlingshire, on the 14th of December, 1730. His mother was a daughter of Graham of Airth, in the vicinity of his own residence, who was then Dean of the Faculty of Advocates, and Judge of the High Court of Admiralty in Scotland; a man of distinguished abilities, and respected for his public and private

virtues. Young Bruce had the misfortune to lose his mother in the third year of his age; his father married a second wife, by whom he had two daughters and six sons, some of whom embraced a military life and died in the service of their country.

In his childhood, Bruce possessed nothing of that daring spirit and athletic constitution which afterwards carried him safely through so many perilous adventures. The insidious disorder that hurried his amiable mother to a premature grave, seemed to have marked him out as another victim; but the phthisical symptoms of infancy gradually disappeared, and at eight years of age his father sent him to London, where it was intended he should receive a liberal education, suitable to his future prospects in life, as the heir apparent of the family estate. He was entrusted to the friendly care of his uncle, Counsellor Hamilton, under whose superintendence he remained until 1742, when he was removed to Harrow School, then conducted by Dr. Cox. At this famous seminary he prosecuted his studies with unusual diligence, and had the reputation of being one of the most promising boys that the master ever had under his charge.

Bruce quitted that institution on the 8th of May, 1746; and during the four years of his residence there, he not only acquired a competent share of classical learning, but gained the esteem of many individuals who became his attached friends ever afterwards. He had now reached the age of sixteen, but he by no means enjoyed confirmed health or a

robust constitution. His tall stature and his general appearance indicated that he had grown faster than his strength; however, as it was considered necessary that he should follow some profession, Mr. Hamilton was requested to converse with him on that important subject. His own preference was to prosecute the study of divinity and become a clergyman, as being more in unison with the gravity of his character and habits.

Meantime, after leaving Harrow, he was sent for a short time to another academy, where, besides Latin and Greek, he studied French, arithmetic, and geography. His father having expressed a wish that he should abandon the church, he at once complied, and consented to turn his attention to the law, with the view of becoming an advocate at the Scottish bar.

Having greatly improved in his health, he returned in May, 1747, to his native place, and devoted the following autumn to the invigorating sports of the field, which gave him a decided taste for that sort of amusement. In the winter he repaired to Edinburgh, where he attended the professors of Civil and Scotch law; but a short trial soon convinced him that his mind was not adapted for these pursuits. He had no relish for dry technicalities, the use or importance of which he could not comprehend; and after hanging his bewildered head for a season over the pages of Heineccius, while his fancy was roaming among the poetic flowers of Metastasio and Ariosto, he was obliged

from the impaired state of his health to return home, by the advice of his physician, in quest of fresh air and exercise. This simple prescription restored his constitution; and it was now determined that he should abandon the legal profession, as its drudgeries were beyond his strength, and not likely after all to ensure success.

For several years Bruce remained idle, without aiming at any particular line of life; India was at last suggested as a field suited to his ardent imagination; but as he was considerably above the age for receiving a writership from the Company, he resolved to petition the Court of Directors for leave to settle under its patronage as a free trader. In July, 1753, he left Scotland for London, with a view to carry this plan into execution. On his arrival he met with the most cordial reception from his former friends and acquaintances; and while waiting in suspense for the permission of the Directors, a new object took possession of his heart, which speedily obliterated all thoughts of foreign travel in pursuit of wealth or business. This was an elegant and accomplished young lady, named Adriana Allan, daughter of a widow, whose husband, an eminent wine-merchant, had raised himself to opulence by his steadiness and integrity. Bruce had been introduced to her by one of his companions; her engaging manners and affectionate disposition soon won his love; their regard was mutual; and as the mother's consent was easily obtained, the marriage took place (Feb. 3, 1754),

and the prospect of riches in India was exchanged for a share in the wine-trade. Our traveller knew nothing at all about the business, but as it was an additional bond of connexion with the fair object of his choice, he embarked in it with all the ardour of professional enthusiasm. The dealings of the company were extensive, and he now seemed fixed for life in an employment which promised to secure him both fortune and happiness.

But the morning of his hopes was soon overclouded. His young wife inherited a consumptive habit, which made it necessary for her to seek a healthier clime than the thick noxious atmosphere of London. Finding the waters of Bristol unavailing, she undertook a journey to the south of France, but expired on reaching Paris, exhausted with disease and fatigue. The poignant grief of Bruce was exasperated almost to frenzy by the refusal of the intolerant Catholic priests to allow her Christian burial. To obtain this rite required the influence of the British ambassador, Lord Albemarle; and at the dead hour of midnight, the disconsolate husband bore her remains to a grave, for which he was indebted to the humanity of that nobleman. The distraction of his mind, with the want of food and rest, threw him into a fever at Boulogne, from which he recovered so far as to be able to return to London. His usual avocation was resumed, but the tie that endeared it to him was broken, and it no longer afforded him either interest or amusement. Resigning the chief management to his copartner,

he endeavoured to soothe his sorrows with study and travel.

For two years he devoted himself to the acquisition of the Spanish and Portuguese languages, and also made considerable progress in several styles of drawing. It fortunately happened that the concern in which he was engaged required a regular and constant intercourse with those countries, so that his desire to visit the continent coincided with the ordinary routine of the business.

After having made a short visit to the islands of Guernsey and Alderney, he sailed in the month of July for the continent, and spent the remainder of the year in Portugal and Spain. From Corunna, where he landed, he proceeded to Ferrol, and thence to Oporto and Lisbon. His professed object was to be present at the vintage of that season, but his journals showed that he had paid more attention to the manners and customs of the people. From Portugal Bruce entered Spain, passed through Toledo, and made an excursion over the mountains into the province of new Castille. About the middle of November he reached Madrid, having traversed the districts of Cordova and Seville. His intimate knowledge of the Spanish language was of great service to him, in enabling him to appreciate more narrowly the habits and condition of society.

The traces of Oriental manners visible in the south, the ruinous palaces of the Kaliphs, and the romantic tales of Moorish chivalry, turned his attention to the unexplored collections of Arabic manu-

scripts deposited in the monastery of St. Laurence and the famous library of the Escurial at Madrid. Having a slight acquaintance with that tongue, he might perhaps have brought to light some of their hidden treasures; although little could be expected from Bruce after the laborious researches of Michael Casiri, who was at that very time engaged in compiling his celebrated work the *Bibliotheca Arabico-Hispana Escurialensis*, in which he has classed and given copious extracts from no fewer than one thousand eight hundred and fifty-one Arabic manuscripts. But the jealousy of the Spanish government prevented him from gaining admission into that vast sepulchre of oriental learning, except upon a condition with which his unsettled imagination could not comply, that of attaching himself to the Spanish court.

After sojourning there for a few months, he departed for Pampeluna, the capital of Navarre, where he arrived on Christmas day, 1757, on his way to France. Crossing the Pyrenees, he reached Bourdeaux, where he tarried for some time, delighted with the cheerful vivacity of French society. From that city he traversed the country eastward to Strasburg, and then following the course of the Rhine to its confluence with the Maine, he visited Frankfort. Returning northward, he passed through Cologne to Brussels, having a strong desire to visit the Austrian Netherlands. On the second day after his arrival he innocently inveigled himself in a duel with a stranger; and having wounded his antago

nist, he was obliged to make the best of his way to Holland. Thence he proceeded to Hanover, where he had the fortune to witness the battle of Crevelt (June 23, 1758), the first engagement he had ever seen.

Yielding to the romantic ideas of military glory with which that spirit-stirring scene had inspired him, he resolved to quit the peaceful walks of life and the insipid avocations of trade, and become a soldier. His imagination pictured to him the exploits and the fame of his illustrious ancestors; and he might probably have embarked as a military adventurer in foreign service, had he not received a letter at Rotterdam informing him of his father's death. This intelligence, and the consequent succession to the family estate, altered his intentions, and obliged him to return without delay to England. Having gradually disengaged himself from his partnership in the wine-trade, he made preparations for returning to Scotland, the value of his property in the mean time having been considerably raised by the large demands of the Carron iron-company on his coal-mines.

A circumstance at this time happened which formed the pivot on which the future destiny of Bruce was to turn. During his short stay at Ferrol, in Gallicia, he had been led, in consequence of a rumour of war between Britain and Spain, to consider that place as the most advantageous point for the British squadron to attack with a view to invade the country. This project Bruce now communi-

cated to Mr. Pitt, with whom he had the honour of conversing on the subject. That able minister seemed inclined to adopt his plan; but before it could be carried into execution, and when Bruce had received orders to wait upon him on the subject, Mr. Pitt resigned his office. The scheme, however, was not allowed to drop: it had been laid before the king, and was highly recommended by Lord Halifax. The Earl of Egremont and Mr. Grenville had several meetings with Bruce to concert the expedition, which was to be entrusted to Lord Howe. But the Portuguese ambassador interfered, and the idea was suddenly abandoned.

After these repeated disappointments, Bruce retired to Scotland; but he was soon again called to London by Lord Halifax, who suggested to him the congenial task of exploring the coasts of Barbary and the magnificent remains of Moorish architecture, which had been already partially visited by the learned Dr. Shaw. The discovery of the sources of the Nile was likewise made the subject of conversation; and it was from this incident that Bruce conceived the design of solving that great geographical problem which, as he expresses himself, had baffled the researches of all travellers for the last two thousand years. Fortune seemed to smile on this arduous undertaking, for the consulship of Algiers having become vacant by the death of Mr. Ford, Bruce was induced to accept the office as affording additional convenience for making his proposed scientific excursion into the interior. Before

his departure he had the honour of being presented to his majesty George III. who conversed with him on the nature of his expedition, and requested him to make accurate drawings of the ruins he might discover in the course of his travels. To improve his taste and his knowledge of these matters, it was arranged that he should travel through France and Italy, with a view to observe and study the remains of Roman antiquity in the latter country.

Bruce was overjoyed at the delightful prospect now opened before him; he sailed from England in June, 1762, and arrived at Rome in the month of August. The paintings, statues, ruins, and other curiosities which he examined during his visits to Naples, Florence, and Bologna, have already been seen and described by thousands of travellers; it is only necessary therefore to remark, that on all the particulars he made very minute observations, which indicated the extent of his knowledge as well as the correctness of his taste and judgment. Having engaged an artist named Luigi Balugani, and availed himself of every opportunity to improve his own skill in drawing, as also of the Arabic language, he sailed from Leghorn on board the Montreal man-of-war, and arrived at Algiers on the 15th of March, 1763. With the view of observing the transit of Venus, which would be visible at that place, he had provided himself with a complete apparatus of instruments, in the selection of which he had been assisted by his friends Admiral Campbell and Mr. Russell.

The despatches which Bruce sent home in his capacity of British consul (and which are preserved in the Colonial Office), gave a curious and correct picture of the customs of the Algerines, and of the barbarous government under which they lived. It was usual for every new consul to make large presents on entering upon his official employment; the rapacity of the Dey, which extended to his lowest menials, led him to render their situation as disagreeable as possible, in order that he might enrich himself by compelling the Christian states frequently to change their diplomatic servants. The consequence was, that our traveller soon got involved in disputes with the Dey, who violated without scruple both the persons and properties of such English subjects as fell into his hands. When Bruce remonstrated, he was instantly told by his Highness that "he cared neither for the King of England nor his consul." He then ventured, in a letter to his patron, Lord Halifax, to recommend "forcible measures, as the only way of maintaining the dignity of his country at Algiers." This bold advice evidently placed his own life in jeopardy, and he began at last to apprehend that he might fall a victim "to these lawless butchers."

Fresh quarrels having arisen on the subject of certain English passports which the French governor of Minorca had seized when he took that island, and sold to Spaniards, Neapolitans, and other enemies of the Barbary regencies, with a view to involve us in a war with the Algerines, Bruce courageously

opposed the cruel resolution of the Dey to order every ship carrying a *passavant*, or *written* certificate, to be captured, concluding that as they differed from the old *printed* form they must have been forgeries. The result of this determined conduct was, that the British consul had his dragoman taken from him, and was commanded to quit the country in three days; and had not the savage passion of the Dey been somewhat abated by the opportune arrival of proper admiralty passes, the discoverer of the sources of the Nile might have fallen a sacrifice to the caprice of an ignorant barbarian. The dangerous post from which Bruce had so narrowly escaped, was immediately filled by a successor, who overstepped the bounds of conciliation so far as to allow the Algerine tyrant to impose a tax on British vessels, which he had no right to levy.

The time that elapsed between Bruce's dismissal and his obtaining an answer from Lord Halifax to his despatch, was assiduously devoted to study in making him familiar with every thing that was requisite for his intended journey. From Father Christopher, a Greek priest of Cyprus, who had formed his acquaintance at Algiers, he acquired a thorough knowledge of the Romaic or modern Greek, which was of great importance to him in Abyssinia. From Mr. Bell, the king's surgeon, and from his friend Dr. Russell, physician to the British factory at Aleppo, he obtained some professional information on the compounding and administering

of medicines, which afterwards served as a valuable passport in all the countries which he visited.

No sooner was he relieved from his tedious residence of two years and a quarter at Algiers, than he prepared for his departure; and accordingly, he sailed on the 25th of August, 1765, for Tunis and Tripoli, being furnished with recommendatory letters from the Dey to the Bey of both these regencies. Proceeding along the coast, he visited Bona, the ancient Aphrodisium; on anchoring at Biserta, he paid a visit to Utica, not so much (as he says) in the expectation of finding any thing remarkable, as out of respect to the memory of Cato. He found the city a heap of rubbish, but the trenches and approaches of the ancient besiegers were still tolerably perfect. After doubling Cape Carthage, and rowing along the bay, he saw several buildings and columns still standing under water, by which it appears that Old Carthage had owed part of its destruction to the sea; and hence may be inferred the absurdity of any attempt to represent the site of that renowned city on paper.

The inhabitants of Tunis he found to be more civilized than the Algerines, and living under a milder government. Having delivered his letters to the Bey, he obtained permission to visit the country in any direction he might please; and about the middle of September, he made an excursion into the interior, accompanied by his draughtsman, ten servants, and a small escort of foot soldiers. From

the Bey's wife he received a present of a two-wheeled covered cart, resembling those commonly used by bakers, and this served as a conveyance for his quadrant and telescope, protecting them sufficiently from the weather.

At Tucca he found a Corinthian pillar of Parian marble, and the ruins of a temple, among which he remained fifteen days, making various interesting drawings, which, it appears, have never yet been given to the world. At Hydra (the ancient Thunodrunum) he met with a tribe of Arabs who were immensely rich, but remarkable for being exempted from paying tribute either to Tunis or Algiers, on the frontiers of which kingdom they dwelt. The pretence for this immunity was rather singular. Being obliged by the institutions of their founder to live upon lion's flesh, they enjoyed this indulgence from these governments, because they devoured the natural enemies of the state. Bruce partook of this extraordinary fare, and mentions an anecdote of Dr. Shaw, who made the same statement; but finding it ridiculed at the university of Oxford as an inversion of the order of nature, since the more general practice is for lions to eat men, he did not venture to publish the fact in his travels, but contented himself with merely printing it in the appendix.

From Hydra Bruce proceeded to Spaitla, and was occupied eight days in measuring and drawing its extensive and elegant ruins. To this place he returned a second time after making a short visit to Tunis, and spent five days more in revising and

correcting his sketches. During these journeys, his health was good, notwithstanding the heat of the climate; the only annoyance to which he was exposed was an attack of a tribe of plundering Arabs. From Tunis he set out for Tripoli, travelling along the coast; the only incidents of importance that occurred on the route were his falling in with the Haj or pilgrim caravan on its way to Mecca in Arabia, and his being assailed by a party of Arab horsemen, who were repulsed with considerable difficulty.

At Tripoli he was hospitably received by the British consul, a countryman of his own, the Honourable Mr. Fraser of Lovat; but in consequence of some misunderstanding between the Pasha and Mr. Fraser, our traveller found it absolutely necessary for him to return to Tunis, until the differences with the Barbary States were adjusted. In August 1766, he again set out from Tunis, crossing the desart by Sfax and Gerba, and arrived in safety at Tripoli. He then despatched an English servant to Smyrna with his books, drawings, and supernumerary instruments, to await his arrival.

Crossing the gulf of Sydra (the Syrtis Major), Bruce visited Bengazi, but he found the whole district in a state of lawless disorder, owing to the mismanagement of the governor, who was brother to the Bey of Tripoli. Quitting this dreadful scene, and travelling over the greater part of the Pentapolis, he visited the ruins of Orsinoe; but discovering nothing of interest there, nor at Barca, he proceeded

to Ras Sem, the petrified city, where the Arabs pretend that men and horses, women churning, little children, dogs, cats, and mice, were to be seen in a state of petrifaction. It is needless to say that Bruce discovered none of these marvels, and found them all to be fables. Approaching the sea-coast he came to Ptolemeta, the ancient Ptolemais, the walls and gates of which he found still entire, and covered with an immense number of Greek inscriptions.

The turbulent state of the country, the appearance of the plague, and the plundering of the great pilgrim caravan, induced our traveller to fly at once from that inhospitable coast, to save his life and the information he had so laboriously acquired. Embarking with his little party on board a Greek junk belonging to Lampedosa, a small island near Crete, he resolved to proceed on his journey; but the vessel being badly appointed, and overcrowded with starved passengers, he discovered, when too late, that he only escaped one species of danger to encounter another. The captain was ignorant of his duty, and being overtaken with a storm, the ship struck upon a sunk rock at the entrance of the harbour of Bengazi; a few of the men perished by attempting to save themselves in a boat; Bruce was an expert swimmer, and reached the shore in a state of great exhaustion; for a considerable time he lay insensible, and was at length roused from his stupor by a blow on the head from the lance of an Arab, a party of whom had come to plunder the vessel.

From the fashion of his dress, which had been

purchased at Algiers, the Arabs mistook him for a Turk; and after many kicks and curses, they stript their defenceless and half-dead victim, leaving him in a state of nudity on the sand. Suspecting the true cause of his misusage (the Arabs detest the Turks), he contrived to let the robbers know that he was a poor Christian physician, a dervish going about doing good, and wrecked while on his way to Greece to get bread. This information procured him better treatment; the Sheik or chief of the tribe ordered him a plentiful supper, where he had the happiness to meet his attendants. Camels were then brought, and the whole party proceeded to Bengazi; here Bruce wrote to the Sheik, entreating him to endeavour to fish up his cases and instruments from the wreck; but this was not effected, though a handsome reward was offered, and he lost by this importune accident a sextant, telescope, time-piece, a small camera obscura, several guns, pistols, drawings, with many of his notes and observations.

After being detained at Bengazi about two months, Bruce obtained a passage in a small French sloop, the master of which he had known at Algiers; and bidding farewell to Africa, he landed at Crete, where in consequence of his exertion in the waves, he was seized with an obstinate ague, and for some days lay dangerously ill. From Crete he sailed to Rhodes, where he had the pleasure to find his books and instruments. Being desirous to view some magnificent ruins on the coast of Caramania in

Asia Minor, he proceeded to Castelrosso; but his fever increasing, he was reluctantly compelled to abandon his object, and taking again to sea, he touched at Cyprus, and then landed at Beiroot near Sidon, on the coast of Phœnicia, in June, 1767.

His health and constitution had suffered severely, still he resolved to persevere; but before undertaking his bold attempt to reach the fountain of the Nile, he was anxious to visit Syria, and add the ruins of Palmyra to those of Africa. Proceeding by Latikea and Antioch to Aleppo, he was again seized with his relentless malady; and had it not been for the kind attention of M. Belville, a French merchant, and the professional skill of Dr. Russell, physician to the British Factory in that city, it is probable Bruce's travels would have ended in the capital of Northern Syria. As soon as his health would permit, he departed for Palmyra, which he reached, after making a narrow escape from the treachery of the inhabitants in fording the Orontes. The view of these stupendous ruins made a strong impression on his imagination, as surpassing any thing he had ever seen. With the assistance of Balugani, he proceeded to sketch the magnificent scene before him, dividing the whole into six angular views; and after finishing thirteen large drawings, he and his party quitted that enchanting place, and travelled almost a hundred and thirty miles to Baalbec.

Having taken a number of drawings of these gigantic ruins, he returned by way of Tyre to the

hospitable mansion of M. Clerambaut at Sidon, much fatigued, but gratified exceedingly with what he had seen. On his arrival, he found a supply of mathematical and astronomical instruments, which had been sent to him from Europe, to make up for the loss he had sustained at Bengazi: his telescopes had been forwarded to him from London; a time-piece and a stop-watch from Paris; and a quadrant from Louis XV., who had learned the story of his misfortune from the Count de Buffon. Equally flattered and delighted with this support, he resolved to delay no longer his voyage to Egypt; and on the 15th of June, 1768, three years after quitting Algiers, he sailed from Sidon for Alexandria, which he did not reach until the beginning of July, having been detained for some time at Cyprus, as it was not known there whether the plague had ceased in Egypt.

Bruce carried with him letters of recommendation to the mercantile house of Julian and Bertram, and to them he imparted his design of pursuing his journey into Abyssinia; but as the government of Cairo had always been jealous of visitors to that country, he was obliged to pretend that his destination was to India.

When his cases of instruments were opened at the customhouse at Alexandria, they naturally suggested to Risk, the secretary of Ali Bey, that their owner must be versed in the science of astrology. His supposed knowledge of the stars, and ability to foretell contingent events, threatened to become

rather a dangerous accomplishment. In a few days he was desired to repair to the convent of St. George, where he met with his old friend, Father Christopher, who had lived with him at Algiers; and from that venerable patriarch he received much useful intelligence respecting Abyssinia, where several of the highest offices in the kingdom, he told him, were held by Greeks, with whom he corresponded. The fame of his astrological science led the Bey to request an interview, that he might ascertain the result of the war then pending between Russia and Turkey. Bruce answered with true sybilline obscurity, which amazed the Bey, and he was dismissed with an offer of coffee, sweetmeats, and protection.

His knowledge of physic likewise attracted the notice of Ali, who again sent for him to prescribe a cure for a fit of sickness with which he had been seized after dinner. Bruce recommended an emetic; a remedy which, being contrary to the religion as well as the stomach of a Musssulman, was declined, until the experiment was made on a young monk, "who was absolutely turned inside out before them," that the Bey might have the satisfaction to see how the medicine operated.

Anxious to advance on his journey, our traveller procured recommendatory letters to the governor of Syene and Upper Egypt, also to the Bey of Suez, the Sheriff of Mecca, the Naib of Massuah (then part of Abyssinia), and to the King of Sennaar. Thus provided, he bade adieu to Cairo, and embarking with his little party on the 12th of De-

cember, he proceeded up the Nile in a canja, which was to carry him to Furshoot, the residence of Haman, Sheik of Upper Egypt. As he passed along, he was gratified with a sight of the pyramids, and surveyed with delight the picturesque scenery of that ancient country. The situation of Memphis, the old capital of Egypt, excited his attention, and he entered keenly into the conflicting opinions respecting its position, as maintained by Shaw, Pococke, Niebuhr, and others; but it is needless for us to touch upon that controversy, which will likely remain for ever a topic of dispute, as the reader perhaps knows that not a vestige of Memphis has existed for many centuries.

The ruinous villages and Arab encampments on the margin of the river, gave life and variety to the scene. Palm trees studded the green narrow valley, and behind them rose the barren hills of a whitish sandy colour, and completely destitute of all vegetation. At Rhoda, Bruce saw the magnificent ruins of the ancient city Antinous, built by Adrian. In some parts of the valley the ground was sown from the foot of the mountains to the waters edge, the grain being merely thrown, after the river has subsided, upon the mud, without any preparation of the plough. In the progress of his voyage, Bruce visited Girgé, Dendera, Furshoot, Thebes, Luxor, Karnac, and other places memorable for their stupendous ruins, which have since his time been depicted and described by a hundred subsequent travellers; of many of these he took sketches, at the

hazard of being murdered by the Arab robbers; and in one of the sepulchres at Thebes, he drew two ancient harps, which were preserved among his papers, and given to Mr. Burney to illustrate his History of Music.

Two days after the canja had sailed from Luxor, it reached Sheik Amner, the encampment of the Arab tribe that extended from Cosseir on the Red Sea far into the desert which Bruce had to cross. He thought it politic to cultivate their friendship. The traveller and his party were well received by the old Sheik, called Nimmer (or the Tiger), who was very ill, and lying in the corner of his tent on a carpet. Bruce prescribed soap pills, which afforded him great relief; after which the grateful veteran solemnly offered him his protection as far as Cosseir. By the advice of the "Royal Tiger," to whom for the first time he unfolded his real design of penetrating into Abyssinia, he was induced to take the route from Kenné to Cosseir; thence to cross the Red Sea to Jidda in Arabia; and from that port to sail direct for Massuah on the coast of Sennaar. Accordingly, on the 16th of February, 1769, he set out from Kenné, retracing his course down the Nile; having previously visited the celebrated cataracts, which are about six miles from Assuan. Much to his surprise, he found that vessels could sail up the rapids, the river there being not half a mile broad, but divided into a number of small channels.

The caravan, which he joined at Kenné, crossed

the dreary desert at a funereal pace; nothing was to be seen but burning sands, or barren hills of a brown calcined colour, like the cinders on the side of Vesuvius. There was no water, brackish or sweet; nor the traces of any living creature; neither serpent nor lizard, antelope nor ostrich. In four days they reached Cosseir, "a small mud village defended by a square fort with a few pieces of cannon." Here one of his attendants, Abd-el-gin, had nearly fallen a victim to the fury of the Arabs; but by the address and intrepidity of Bruce, he was recovered from their hands when almost strangled by means of a hair rope passed round his neck.

While at this place, Bruce determined to attempt a survey of the Red Sea, which was then but imperfectly known to European navigators. Having provided a vessel for the purpose, he embarked with his party, and proceeded along the Egyptian coast as far as the entrance to the gulf of Suez. The rais or captain had the reputation of being a saint, but his absurdities were too ridiculous to impose upon any body save the ignorant Arabs. To calm the fears of his passengers, he gravely assured Bruce, that any rock which stood in his way would either jump aside at their approach, or else turn soft like a sponge. His miraculous virtues, however, were not proof against storms, for after making a short excursion to Jibel Zumrud, the emerald mines described by Pliny, a violent tempest of wind and rain obliged them to return to Cosseir; the rais

being completely overcome with terror, and unable to manage the ship, kept muttering something about the mercy and merits of Sidi Ali.

On the 5th of April, Bruce again embarked to continue his survey, and proceeding up the coast four days, he crossed the gulf of Suez to Tor, a small straggling village in the region of Mount Sinai. On the 11th he again sailed; advancing down the Arabian shore, he touched at Yembo, and thence continued his voyage to Jidda, the most important place (except Mocha) on the eastern coast of the Red Sea.

From the effects of sun and weather, and the attacks of his Bengazi ague, Bruce's jaded appearance and shabby dress made him resemble a native Arab or Turk rather than an Englishman. Even his own countryman at Jidda, Captain Thornhill of the Bengal Merchant, could not at first recognize him as a European; and imagining him to be some poor starved adventurer, sick and in distress, he ordered his cook to give him a hearty meal of broth and mutton; Bruce despatched his dinner, and immediately fell asleep upon a mat in the open court yard, before another apartment could be provided for him. While enjoying this welcome repose, his luggage arrived at the customhouse; and the Vizier being exceedingly curious to know what so many large boxes contained, he ordered them to be forced open at the hinges. The magnificence of the contents, when contrasted with the humble guise of the owner, excited his utmost astonishment.

The first thing he beheld was the firman of the Grand Signior, splendidly written and titled, the inscription being powdered with gold dust, and wrapped up in green taffeta. Next appeared a white satin bag, addressed to the Khan of Tartary! Then a green and gold bag, with letters directed to the Sheriff of Mecca! Then a crimson satin bag, containing others for Metical Aga, his chief minister, sword-bearer, and favourite! Lastly, appeared a letter from Ali Bey of Cairo to the Vizier himself, written with all the haughty pomp of a prince to a slave, and concluding by saying, that if any accident should happen to Bruce through his neglect, the offence should be punished at the gates of the Holy City. The Vizier's curiosity at the sight of so much mysterious grandeur, was soon changed into feelings of very painful alarm; he ordered the mighty stranger's boxes to be nailed up immediately, and upbraiding the servants for not telling him to whom they belonged, he mounted his horse, and instantly rode down to the English factory, inquiring every where for the English nobleman, whom nobody had seen.

Bruce was still lying on his mat in the court, which was now filled with a crowd of people; and on the question being put to him, by one of the officers, where his master was? "In heaven" he replied, yawning from his sleep; but soon recovering his scattered senses, he rose and introduced himself to the Vizier, as the owner of the tremendous luggage. On being informed of his plans, arrangements were

instantly made for getting him the strongest possible recommendations to the Naib or governor of Massuah, to the sovereign of Abyssinia, and the king of Sennaar. All the English at Jidda were particularly attentive to his wishes, and it was agreed that a native Abyssinian, called Mahomet Gibberti, should accompany him, to be an eye-witness of the treatment he should receive.

While these preparations were getting ready, Bruce prosecuted his survey of the Red Sea. Leaving Jidda on the 8th of July, he landed at Gonfodah, and thence continued his voyage to Gibel Raban, a small island in the Straits of Babelmandeb, where he drank from a jar of brandy to the health of his Britannic majesty. Having determined the latitude and longitude of the straits, and other places on the adjacent coast, he sailed northward (8th of August) and arrived at Loheia, an Arabian town directly opposite Massuah, and the port of Abyssinia. Here he was joined by his new guide, Mahomet Gibberti, who brought the firman for the Naib, and letters for Ras Michael, governor of the great province of Tigré. Quitting Loheia on the 3d of September, they passed Gibbel Teir, a volcanic isle, about midway from either shore; on the 14th they reached Dahalac, the largest island in the Red Sea, being thirty-seven miles in length and eighteen in breadth; and on the 19th, the vessel came to anchor in the harbour of Massuah.

During his circumnavigation of the Arabian Gulf, Bruce made a great number of notes and observa-

tions respecting the soundings, currents, bearings of the different islands, and geographical position of the principal points and harbours. His remarks were chiefly nautical, but his collections of marine productions, and his observations on the natural history of the Red Sea were very extensive, although not detailed at length in his travels, or even in his private journals.

After a long series of disasters and adventures, this enterprising traveller had at last reached the land where lay the far-famed object of his researches, "the coy fountains of the Nile." As it is to this point chiefly that our attention in the present biographical sketch is directed, we shall pass with very few remarks those parts of his narrative that refer to the ancient history, as well as the civil and ecclesiastical state of the country.

The kingdom of Habbesh (the old name of Abyssinia) is reckoned in superficial extent about the size of Great Britain. That sequestered region, intersected with ranges or chains of high mountains and low cultivated valleys, is traversed by hot poisonous winds, and deserts of moving sand. The ferocious manners of the people are more dangerous to the traveller than the fervid climate they inhabit. On the south it is surrounded by the various tribes of the Galla nations; the Shangalla (the ancient Cushites or Ethiopians) lie on the northern boundary, forming, as it were, a string to the bow of the Galla territory, which almost encompasses the kingdom in the opposite direction.

Except its river and its religion, Abyssinia seems to possess little that can excite the interest of Europe, or connect it with the civilized world. Alternately deluged with rain, or burnt up by a vertical sun, it presents at different seasons a picture of luxuriant vegetation or cheerless solitude. Saturated with heat and moisture, the black fat earth is impregnated with swarms of insects, which burst into existence, and overshadow the land with flying armies of desolation. To avoid this living pestilence, even the elephant and rhinoceros plunge into marshes, that the mud, when dried on their skin, may form a shield impenetrable to their attacks. The inhabitants, with their cattle, repair to the deserts, or take refuge in their cities, which are generally perched on the tops of mountains. The country of the Shangalla tribes, being low and flat, is chiefly exposed to this annoyance.

This rude people migrate in tents, and during the rainy season they live in holes, excavated in the soft sandy rocks. They are Pagans, and worship the moon, stars, trees, and serpents. They are early trained to archery, and practice polygamy, as they reckon a great number of children the best defence against their enemies. One of the savage amusements of the Abyssinians is to hunt these ill-fated tribes in the woods, a sort of horrid recreation which is customary on the accession of every new king to the throne. As the Shangalla me are active, and quite familiar with the intricacies the forests, their merciless pursuers enjoy, what i

the language of the turf would be called excellent sport, although the chase always ends in slaughter; all the grown up persons, men and women, being killed, and the children carried off and sold for slaves to the Turks, who profess to admire the Ethiopians because in summer they have a cold skin!

The Galla are a shepherd race, and exceedingly numerous; their complexion is brown or black, with long hair of the same colour. They are of a warlike disposition, and manage their horses with remarkable dexterity. Their habits and appetites are filthy to a degree rare even in barbarians. Even what may be termed the elegancies of their dress, is of a description that must appear somewhat offensive to our refined notions of personal decoration. Round their bodies, by way of ornament, they wind the entrails of oxen, which also serve as necklaces, and hang in clustering festoons down their breast or back. Their whole person is besmeared with grease, which is poured so copiously on their heads, that it melts, and is continually dropping on the goat-skin that covers their shoulders. They devour their meat raw; and when thirsty, they open a vein in the neck of a cow, and regale themselves with a draught of warm blood. They practise polygamy, and in their religion are partly Heathens and partly Mahometans. Bruce describes them as intelligent and active, but extremely dirty and ignorant.

The king of Abyssinia, at the time when Bruce resided at Massuah, was named Tecla Haimanout,

and had succeeded to the throne in 1769. Since the death of M. Roule, who had proceeded to that court as French ambassador in 1704, no European had visited these secluded regions, and the land of Ethiopia seemed almost blotted out from the map of the world. The immense distance, the climate, the dreary deserts, and the barbarous habits of the surrounding tribes, were of themselves enough to deter any ordinary traveller from undertaking so dangerous a journey. The two great links, commerce and religion, which had so long connected Abyssinia with Europe, were broken when the Romish missionaries were interrupted in their labours of conversion, and when the trade with India forsook its ancient route by the Red Sea, and directed its course round the Cape of Good Hope. The arrival of Bruce, therefore, marked a new era in our historical knowledge of that country. His narrative contains a detailed account (occupying nearly a thousand pages of his volumes) of the reigns of several kings, with minute descriptions of their persons, their petty feuds and dissensions, their wars with the Moors, the Jews, the Galla, and their savage treatment of the Shangalla tribes; but these we leave to be studied in the travels, as not being essentially connected with the biography of the traveller.

Massuah, which Bruce reached after a passage of seventeen days across the Arabian Gulf, is a small island near the town of Arkeeko, and was once a place of great commerce, possessing a share of the

India trade, but it had long fallen into decay. At the period of his arrival the place was in a disturbed state, in consequence of the Naib having monopolized the customs of the port, and refused to surrender any portion of them, either to the Pasha of Jidda or the king of Abyssinia. This dispute had nearly proved fatal to Bruce, and deliberations were held whether he should not be put to death and his property divided among them; but the advice of Achmet, nephew to the Naib, prevailed; and it was agreed that the fate of "the English prince" should be placed at his disposal. With this personage Bruce contrived to ingratiate himself, chiefly through the influence of his sincere friend Mahomet Gibberti, who had been sent by the Pasha of Jidda to demand payment of the tribute; and also to request Ras Michael, prime minister of Abyssinia and governor of the great province of Tigré, to lend his aid in compelling the refractory Naib of Massuah to perform his engagement.

The good will of Achmet was easily secured by the compliment of a brace of pistols, and by the adroit representation of Gibberti, who had impressed his mind with magnificent ideas of Bruce's importance, and of the amazing wealth and power of his nation. But it proved a more difficult task to conciliate the old Naib, who was as remarkable for his malicious cruelty as for his insatiable avarice. On his return from Arkeeko, Bruce had an interview with him, to deliver his firman and letters of safety. It soon became evident that the design of this func-

tionary was first to rob and then to assassinate Bruce. He desired him to prepare three rich presents, to be delivered to him on three separate days; and when this request was denied, he threatened that unless he paid him down three hundred ounces of gold, "he would confine him in a dungeon, without light, air, or meat, until his bones came through his skin."

At length Bruce succeeded in over-awing this brutal savage (whose naked slaves were ready at a word to plunge their knives into the "Christian dog"), by threatening him with a broadside from an English man-of-war, and telling him that he had already sent forward his despatches to Ras Michael and the king of Abyssinia, who would most certainly punish him if he offered any interruption to his journey. The old Naib found himself thus completely outwitted; he dreaded the terrible name of Ras Michael, who made and unmade kings and governors at pleasure; and after some other ineffectual attempts to intimidate Bruce, by pretending that an insurrection had broken out in the country through which he had to pass, he allowed him to proceed. Meantime letters had arrived from Ras Michael, expressing surprise why "the physician sent by the king from Arabia" was detained so long, and commanding the Naib to furnish him with the necessary supplies, and forward him without loss of time.

Every thing was speedily arranged and ready for his departure. The faithful Achmet still appre-

hending mischievous designs on the part of his uncle, promised to accompany him part of the way, and take upon himself his safe convoy. On the 15th of November, after a detention of nearly two months, Bruce left Arkeeko, thankful at having escaped from a series of troubles, vexations, and perils beyond what he had ever experienced, and prosecuted his route to Gondar, the capital of Abyssinia. The road lay through deep ravines, dreary plains, and valleys thickly covered with acacia trees, in which the travellers encountered violent storms of thunder, and were exposed to imminent danger from elephants, hyænas, and other beasts of prey.

The most striking object was the lofty mountain of Tarenta, which rose above all the others, towering to the clouds, and sometimes completely enveloped in mist and darkness. Over this they passed with much difficulty, their clothes being torn, and their hands and feet lacerated with climbing up the rocks. Descending the other side, they found the natives busy with their harvest, the cows and bullocks being employed in treading out the corn. The first town they reached was Dixan, which was built on the pinnacle of a hill resembling a sugar-loaf. Leaving this place on the 25th of November, they entered the province of Tigré, the boundary of which they found to be marked by an immense daroo tree, seven and a half feet in diameter, with the head spreading in proportion. At this spot Bruce got quit of that part of his retinue belonging to the Naib of Massuah, whose presence had been a source

of constant alarm to him; then they were joined by several Moors, from one of whom he purchased a black horse, which not only contributed to his ease and comfort, but more than once was the means of saving his life. Mounting his steed, he paraded the animal in every direction, firing from his back at full gallop in the Arab fashion; all of which had its own weight, by giving him in the minds of his rude attendants a superiority which induced them to obey and place confidence in his orders.

The soil of the country was very unequal, sometimes rich and overgrown with wild oats, so high as to cover men and horses; at other places, rocky, uneven, and covered with thick brushwood. They crossed two rivers, the Bazelat and Angueah, being the first running water they had seen since passing Tarenta. The whole district of Tigré, which they had now entered, is full of mountains, which are not so remarkable for their height as their curious and grotesque forms; some being flat and square, some resembling prisms or obelisks, and others like pyramids pitched on their vertex with the base uppermost. One of these pinnacles, called Damo, served as a prison to the royal family of Abyssinia, in ancient times, during the massacres under a queen named Judith, scarcely less celebrated in Ethiopian history than the famous princess who visited Solomon at Jerusalem.

The town of Adowa, at that time considered as the capital of Tigré, stood at the foot of the hill of

the same name, and consisted of about three hundred houses, each dwelling being enclosed by hedges and trees. The residence of Ras Michael was on the top of a hill, and resembled a prison rather than a palace. In it and the adjoining building, more than three hundred people were confined in irons: the object of this cruel treatment was to extort money from them; many of them had been there twenty years, and were kept in cages like wild beasts. The houses were of rough stone, cemented with mud instead of mortar: the roofs were cone-shaped, to resist the heavy rains, and thatched with reeds. The inhabitants have three harvests annually, according to the different kinds of crop; wheat is reaped in November, barley in February, and teff, or vetches, in April. They are much annoyed with rats and field-mice, which they destroy by setting fire to the straw.

Bruce was anxious to proceed without delay to Gondar, and the tranquil state of political events seemed to offer him a favourable opportunity. Ras Michael had found the old king, Hatre Hannes, whom he had raised to that dignity by assassinating his predecessor, too feeble and sluggish for his duties; and having despatched him by poisoning his breakfast, he placed his son, Teela Haimanout, on the throne. The people, wearied of these revolutions, had subsided into a temporary calm. Of this interval Bruce determined to avail himself, and on the 17th of January, 1770, he and his party quitted Adowa, and on the following day they reached the

plain, where stood the celebrated ruins of Axum, supposed to have been the ancient capital of Abyssinia. The remains of art and architecture are very extensive, consisting entirely of pillars, fragments of temples, and other public buildings. Among the statues is one of Ptolemy Euergetes, sitting with his crown on, and his feet resting on a large oblong slab of free-stone like a hearth.

It was in the neighbourhood of Axum that Bruce saw the natives eat raw beef-steaks, warm from the cow's buttock, and he has minutely described the way in which the exploit was performed. He and his attendants had fallen in with a party of travellers who were driving a cow, which they supposed had been stolen; on a sudden, they tripped up the heels of the poor animal, so that it fell to the ground. One of them then sat across her neck, holding down her head by the horns; another twisted the halter about her fore-feet; while a third, who had a knife in his hand, got astride upon her belly before her hind legs, and in a twinkling cut out two pieces, thicker and longer than our ordinary beef-steaks, from the higher part of the rump. "How it was done," says Bruce, "I cannot positively say, because, judging the cow was to be killed from the moment I saw the knife drawn, I was not anxious to view that catastrophe, which was by no means an object of curiosity. Whatever way it was done, it surely was adroitly, and the pieces were spread upon the outside of one of their shields."

When the operation was ended, the skin, which

had been merely flayed off and left entire, was flapped down over the wound, and fastened by means of two skewers or pins; the part was then covered with a cataplasm of clay, after which the animal was forced to rise and proceed, until her hungry drivers required another meal. This fact was one of the very extraordinary events in which Bruce's veracity was called in question; the story was laughed at in his own country, and considered too absurd to be true; subsequent observations, however, have since that time amply verified his statements.

When the travellers reached Siré, they found the peace of that province disturbed, in consequence of the insurrection of Fasil, a man of low birth, who had been made governor of Damot. Ras Michael had marched against him, and succeeded in dispersing his army, after killing ten thousand of his men. The whole country through which they passed was strewn with ruined villages, the wretched monuments of the governor's cruelty. No other event of importance occurred to interrupt them; and after traversing for a month an extensive and mountainous region, the party arrived on the 14th of February (ninety-five days after leaving Massuah) at Gondar.

The situation of that metropolis is described as very romantic. It stands upon the flat summit of a hill of considerable height; the houses were chiefly of clay, with the usual conical roofs. The king's palace was a square building, flanked by towers,

and surrounded with a stone wall thirty feet high, and broad enough at the top for a parapet and a path. The whole population of the town was at that time estimated at about ten thousand families. On the opposite side of the river Angrab was a large suburb consisting of about a thousand houses, occupied by the Moors or Mahometans.

On reaching the capital, Bruce found that the king and Ras Michael, as well as the principal Greeks, to all of whom he had brought letters of introduction, were not then returned from their military expedition. In this dilemma, and knowing nobody to whom he could address himself, a Moor intimately acquainted with their chief, to whom he had brought a letter from his friend Janni, conducted him to a house in the Moorish town, supplied him with food, and promised to screen him from danger until he could procure protection from the government. Here he was soon discovered by Ayto Aylo, the queen's chamberlain, who had already heard of his renown as a physician. This functionary told Bruce that Welled Hawaryat, son of Ras Michael, had arrived from the camp, ill of a fever which was supposed to be the small-pox, and that the Iteghe, or queen-mother, had sent to request his attendance at her palace at Koscam, to consult about the patient.

In obedience to the royal mandate, he repaired to her majesty's residence; but the sick youth had received so much benefit from a charmed potion administered by a saint, consisting of certain mystic

characters written on a tin plate, and then washed off and given him to drink, that the consultation was deferred till next day. Scarcely had he returned home, however, when a second message informed him that Welled was so ill that his mother, the beautiful Ozoro Esther (wife of old Ras Michael), and the Iteghe, begged him to come again and visit him, with some others who were sick.

On entering the palace, he found a deputation of monks had arrived to perform a miraculous cure, by laying upon the patient a cross and a picture of the Virgin Mary, sent by three renowned saints from Waldubba. In consequence of this prescription, Bruce's skill was not put in requisition; but he was introduced to the queen-mother, with whom he held a long conversation about the Roman Catholic religion and the healing virtues of miracles. Next afternoon he was informed that Welled Hawaryat and some others that were sick had died, an event which destroyed all faith in the medical reputation of the saints.

As the contagion had spread itself all over Gondar, Bruce was requested to take up his abode in the palace, where the whole children and grandchildren belonging to the royal family were placed under his charge. Accordingly, being provided with an Abyssinian dress, with his hair cut round, curled, and perfumed in the true Amharic fashion, he proceeded to his destination, and entered at once upon the functions of his new profession. His mode of treating the disorder, by the admission of fresh air

and the use of fumigation, so contrary to the suffocating system and the cramming with raw beef as practised in Abyssinia, was attended with the happiest results. His patients were at length considered out of danger, and by way of fee he received the present of a house in the immediate vicinity of the palace, where he continued to reside, agreeably to the most positive command of Ras Michael, not to leave his charge until further orders. The leisure thus afforded him he employed in mounting his instruments, and making some astronomical and meteorological observations.

On the 8th of March, Bruce proceeded to Azazo to meet the Ras, who had arrived with the troops at that place. That extraordinary person, feared and hated by every individual in Abyssinia, was dressed in a coarse dirty cloth, wrapped about him like a blanket, with a sort of table-cloth folded about his head. He was lean, old, and lame, with sore eyes, and sat stooping upon a favourite mule; but he was too much occupied with military business to enter into discourse with the stranger. He had just gained a victory over the Galla tribes, and the first horrid proof of it which he exhibited was causing the eyes of twelve of their chiefs, whom he had taken prisoners, to be pulled out, and the unfortunate sufferers to be turned sightless into the desert, to be devoured at night by the hyænas.

Next day, the army, about 30,000 strong, marched into the town in triumph; the Ras took the command of the troops at Tigré; he was bareheaded,

with long hair, white as snow. A black velvet cloak with a silver fringe hung over his shoulders down his back; and a bag at his right stirrup held a silver wand, about five and a half feet long. Behind him marched all the soldiers who had slain an enemy and taken the spoils; with these horrid trophies their lances and firelocks were ornamented, as also with small shreds of scarlet cloth, one piece for every man he had killed.

The most remarkable among these savage warriors was the door-keeper of the Ras, who had been so successful in his inhuman trade, that his whole lance and javelin, horse and person, were covered with patches of red cloth. The head-dress of the governors of provinces was curious, consisting of a broad fillet round the head, tied behind, and in the middle of the forehead projected a horn, or conical piece of silver, about four inches long, resembling in shape a common candle extinguisher. These badges of honour were only worn at reviews or parades after victory. The king himself had a fillet of white muslin, fastened in the same manner, and hanging about two feet down his back. Around him were his officers of state, the young nobility who had no command, and after these the household troops; lastly came the executioner of the camp with his attendants, one of whom, as a warning to evil doers, carried upon a pole the stuffed skin of a human being, which he hung up on a branch of the tree appropriated to public executions.

Bruce had continued to visit his patients regularly

at Koscam, where he was cordially received by the Iteghe: but he had been completely neglected by all except the Moors, who were grateful for the attention he had paid to their children. In the evening of the 13th, the Moorish chief, Negade Ras Mahomet, informed him that it was in contemplation to appoint him Palambaras, or master of the king's horse, a very distinguished office both for rank and revenue. Bruce remonstrated against all preferment, as tending to defeat the great object of his visit, and requested that his friends would merely use their utmost exertions to induce Ras Michael to provide for his safety while proceeding to explore the source of the Nile.

For this purpose it was resolved that the letters he had brought from Cairo and Jidda, setting forth the power and riches of the English nation, and the important character of the traveller, should be communicated to the king and the Ras, and a personal interview obtained with both. Old Michael received him with great dignity, cautioned him against the danger "of wandering in solitary places to search for trees and grass, and to sit up all night alone looking at the stars of heaven;" and told him that he was to be appointed Baalomaal to the king, and commander of the Koccob horse, that situation being one most likely to secure his personal safety and leave him at liberty to prosecute his own designs.

From the Ras he proceeded to the palace "to kiss the ground on his new appointment." T

king, who sat with his mouth covered according to the Abyssinian custom, put many questions to him about Jerusalem and the holy places, asked him about his own country, and whether they had the same moon and stars; and finally told him, that instead of returning home with the Greek officers who accompanied him, he was that night to enter upon his new duties, by taking charge of the door of the royal bed-chamber.

Bruce and his brother Baalomaal then hurried to supper; during the repast the wine circulated so freely, that one of them, nephew to Ras Michael, called Guebra Mascal, who was incessantly vaunting about his skill in fire-arms, got so cup-valiant that he gave our traveller a kick with his foot, calling him a Frank, and a liar for saying "that the end of a tallow candle in his gun would do more execution then an iron ball in Guebra Mascal's." This insult was not to be endured; Bruce, boiling with passion, seized him by the throat, threw him violently on the ground, and struck him on the face, having received in the scuffle a slight wound on the crown of the head as he wrested the drawn knife from his assailant. By the laws of Abyssinia, the lifting of a hand within the precincts of the palace is punishable with death, and in a few hours the offender was in irons; but by the interposition of Bruce, who related the whole occurrence, the Ras was prevailed upon to pardon his kinsman and overlook the whole affair. This untoward quarrel, together with the death of his draughtsman Balu-

gani, annoyed him so grievously, that he almost resolved to abandon the object of his journey, and ask permission to return by Tigré.

The marvellous boast about the tallow candle had excited the king's curiosity so far, that he professed himself incredulous of the result until he should see the experiment tried. Bruce, who had no doubt of convincing his majesty, ordered three strong buffalo hides to be suspended against a post close in contact behind each other; and having put one half of a farthing candle into his loaded musket, he discharged the contents through all the shields with such violence, that the tallow was dashed into a thousand pieces against a stone wall, some distance beyond the targets. Shouts of applause from the crowd followed this exploit, which were redoubled when they saw the other half of the candle fired through a table of sȳcamore. The priests, who were his great enemies, alleged the whole was done by magic; but on the king's mind it made the most favourable and lasting impression, so that ever after he treated Bruce with the most decisive marks of confidence and friendship. This simple feat, which every school-boy can perform, raised Bruce into notice, and was long remembered in that country, where the story was told to the English traveller, Henry Salt, forty years afterwards.

As a more substantial token of court favour, Bruce was created governor of Ras el Feel, a western district adjoining the frontier of Sennaar.

Meanwhile, the rebel Fasil no sooner heard

Ras Michael's return to Gondar, than he marched against the Agows, near the sources of the Nile, and defeated them in a bloody battle. A council was forthwith called, and although the rainy season was at hand, old Michael declared that the king's forces should immediately take the field. Bruce, who was suffering from ague and ill health, had taken up his residence at Emfras, a town eastward of the great lake Tzana; and as the army passed close by that place on its march, he embraced the opportunity of joining it, in order to visit the neighbouring cataract of the Nile, as the troops had to cross the river before reaching the enemy's territory. After a journey of several days, they arrived at the river, which was confined between two rocks, and ran in a deep ravine with great noise and impetuous velocity. "The cataract itself (says Bruce) was the most magnificent sight that ever I beheld. The height has been rather exaggerated, but judging from the position of long sticks and poles, at different heights of the rock from the water's edge, I may venture to say that it is nearer forty feet than any other measure. The river had been considerably increased by rains, and fell in one sheet of water, above half a mile in breadth, with a force and roaring that was truly terrible, and which stunned and made me for a time perfectly dizzy. A thick fume or haze covered the fall all around, and hung over the course of the stream, both above and below, marking its track though the water was not seen." From the cataract Bruce returned to the

house of his Moorish friend Negade Ras Mahomet, and on the 22d of May (1770) he resumed his journey to join the king. After passing the Nile, they advanced through a flat country, where the grass was trodden down, the fields left without cattle, and every thing bore marks that the terrible Ras had gone before. An awful silence reigned around; the houses were deserted, and every living being had fled before the march of the destroyers. For the first time Bruce felt his spirit sink at the idea of having penetrated into so remote a country, abounding with so many dangers, from which he appeared to have little chance of extricating himself. This rashness and imprudence, added to the thoughts of his friends in Scotland, greatly depressed his mind; but these uneasy reflections were speedily dissipated by the sound of a general firing, which indicated that the army was not far distant.

The noise was not caused by any engagement, but by the soldiers amusing themselves in shooting boars, buffaloes, deer, and other wild animals that were driven from their lairs at the approach of the troops. A slight encounter with the enemy had taken place at Derdera; those who could not escape were slain, and all sorts of wanton barbarities were committed. The expedition having thus ended, the king and Ras Michael determined to return to Gondar. On the 26th of May they re-crossed the Nile amidst much confusion, the stream being swollen with rain. Rafts were employed for transporting the women and children; the rest swam

with their horses. Two days after the passage, the Ras engaged Fasil and routed him at Limjour; next day the rebel gave in his submission, and solemnly promised that he would never again appear in arms against the king, but hold his government faithfully under him, and pay his contributions regularly. After this declaration, Fasil was appointed governor of Damot and Maitsha.

On the 30th of May Bruce returned to Gondar, mortified at having undergone so many dangers without attaining the great object of his journey —viewing the sources of the Nile—which he had approached within fifty miles. Confidence, however, never failed him, and the reconciliation of Fasil became instrumental in accomplishing his wishes. He had been very attentive and serviceable to Fasil's servants while in the camp, especially in prescribing for his principal general, Welleta Yasous, who had a cancer on his lip; and in return he obtained a grant of the village of Geesh and the source where the Nile rises, in exchange for Tangouri near Emfras. This arrangement greatly facilitated his plans; and although the Iteghe showed much aversion to his design, she did not positively forbid the attempt; and accordingly, on the 20th of October, Bruce and his party resumed the task of exploration. His quadrant required four men, relieving each other, to carry it; and his time-keeper and telescopes employed two more. Passing the flat country of Dembea, towards the great lake Tzana, through which ran the waters of the Nile, they

came to Gorgora, an elevated peninsula running into the lake for several miles, and one of the pleasantest situations in Abyssinia. Proceeding onwards they reached Bamba, a collection of small villages in a valley, where Fasil was encamped with his army. Knowing that this chieftain had power to forward his object, Bruce obtained an interview with him in his tent, and was disappointed to find that he was disposed rather to betray, or even to destroy him, than to promote his design. He affected great surprise at the purpose of his undertaking; told him that the Galla, through whom he had to pass, were a wild and ferocious people, and that he would not reach his destination in twelve months. Bruce, full of indignation at this treachery, remonstrated with him on his breach of faith; and hinted, that if he did not do his duty, he might incur another visit from Ras Michael and the army. This spirited conduct had the desired effect. Fasil changed his tone; assured him that the head of the Nile was within a day's travel with a fleet horse, and offered to send a trusty guide with him to Geesh. After making him handsome presents, and obliging the Galla chiefs to swear that they would not hurt him; "Now go in peace (said he), you are a Galla; this is a curse upon them and their children, their corn, grass, and cattle, if ever they lift their hand against you or yours, or do not defend you to the utmost if attacked by others." Upon this, Bruce kissed hands and took leave.

On the 31st of October he crossed the Nile once

more, near the dangerous ford which he had formerly passed with so much difficulty with the king's army. On the bank they found some of the Galla tribe, whose chief was called Jumper, to whom Bruce paid his respects. He found him at his toilette, after the fashion of his country; that is, he was rubbing melted tallow on his arms and body, and plaiting his hair with the large and small entrails of an ox, some of which hung like a necklace round his throat. Our traveller made his visit as short as possible, glad to escape the perfume of filth and carrion, which was far from being agreeable. These savages offered no injury to the strangers, but they paid the utmost deference to Fasil's horse, which the owner told Bruce, when he made him a present of it, would be a sufficient passport through the country.

Farther into the interior, and beyond the Assar river, the soil was extremely rich, and bore wild oats of a prodigious height and size. The trees were covered with flowers of every colour, and crowded with birds of uncouth forms, all of them richly adorned with every variety of plumage; few of them, however, were musical, their notes resembling the squalling noise of the jay.

It was on the 2d of November that Bruce, for the first time, obtained a distinct view of the mountains of Geesh, the long wished-for object of his most dangerous and troublesome journey; and being now within sight of his goal, he proceeded with redoubled alacrity. The Nile was before him, and

he joyfully descended to its banks, which were ornamented on the west with high trees of the salix or willow tribe; while on the east appeared black and thick groves, with craggy pointed rocks, and overshaded with tall timber trees going to decay with age. The old inhabitants had a profound veneration for the river, and endeavoured to prevent the strangers from crossing, unless they took off their shoes.

Next day they journeyed through a plain covered with acacias. "Here (says Bruce) the Nile winds more in the space of four miles, I believe, than any river in the world. It makes above a hundred turns in that distance; and is not above twenty feet broad, nor more than a foot deep." After coasting for some little time along the side of the valley, they began to ascend a mountain, supposed to be the *Montes Lunæ* of antiquity; and reaching its summit about noon, they came in sight of Sacala, which joins the village of Geesh. Immediately below was seen the Nile, much diminished in size, and now only a brook that had scarcely water to turn a mill. It ran swiftly over a bottom of small stones, with hard black rock appearing amongst them; the ground rose gently from the bank to the southward, full of small hills and eminences. Before he had reached Geesh, Bruce was told by his guide, Woldo, to look at a hillock of green sods in the midst of a marshy ground; "It is there (said he) that the two fountains of the Nile are to be found."

The intelligence had an electric effect on the

mind of the traveller. "Half undressed as I was (says he), and throwing my shoes off, I ran down the hill towards the green island of sods, which was about two hundred yards distant. The whole side of the hill was thick grown with flowers, the large bulbous roots of which, appearing above the surface, and their skins coming off on treading upon them, occasioned me two very severe falls before I reached the brink of the marsh. I, after this, came to the mound of green turf, which was in form of an altar, apparently the work of art, and I stood in rapture over the principal fountain which rises in the middle of it.

"It is easier (continues Bruce in a strain of rapturous exultation) to guess than to describe the situation of my mind at that moment—standing on the spot which had baffled the genius, industry, and inquiry of both ancients and moderns for nearly three thousand years. Kings had attempted this discovery at the head of armies, and each expedition was distinguished from the last, only by the difference of the numbers which had perished; and agreed only in the disappointment that had uniformly and without exception followed them all. Though a mere private Briton, I triumphed here, in my own mind, over kings and their armies; and every comparison was leading nearer and nearer to presumption, when the place itself where I stood, the object of my vain-glory, suggested what depressed my short-lived triumph. I was but a few minutes arrived at the source of the Nile, through number-

less dangers and sufferings, the least of which would have overwhelmed me, but for the continual goodness and protection of Providence. I was then, however, but half through my journey, and all those dangers which I had already passed, awaited me again on my return. I found a despondency gaining ground fast upon me, and blasting the crown of laurels I had too rashly woven for myself."

The artless style of these remarks is a strong internal evidence of the authenticity of Bruce's narrative. His tone of extravagant joy is suddenly overcast with a cloud of melancholy, on reflecting how disproportionate was the object of his discovery in itself, with the time and toil it had cost him to accomplish it. The contemptible streamlet, issuing from a hillock of green sods, bore little resemblance to the vast rolling mass of waters that gave fertility to Egypt.

The transition from despondency to delight, in his present state of mental excitement, was equally rapid; forgetting his gloomy anticipations, he drank to the health of his majesty King George III., from a large cup made of a cocoa-nut shell, still preserved among the family heir-looms at Kinnaird. Several other healths followed from the same limpid fountain, after which he tossed his cap in the air with a loud huzza, until the Agows, who had appeared on the neighbouring height, stood in silent amazement, believing that he was out of his senses, or had been bitten by a mad dog. After this scene of hilarity, which greatly amused his attendants, who could

not enter into his feelings, he retired to his tent to dream his adventures over again.

The small marsh, in which stood the hillock of green sods, was about eighty yards broad; the altar itself was nearly three feet high and about twelve in diameter, surrounded by a wall of turf, at the foot of which there was a narrow trench to collect the water. In the middle of the hillock was a hole about three feet in diameter and six deep, filled with water, which had no ebullition or perceptible motion of any kind upon its surface. About ten feet distant, there was a second small fountain, with a wall, trench, and hole like the other. The body of water from all these, when collected in one stream, according to Bruce, "would have filled a pipe of about two inches in diameter." The latitude he fixed at 10° 59′ 25″ north, and 36° 55′ 30″ east longitude. The Shum, or priest of the river (Kefla Abay), an old venerable man, with a white flowing beard, and a skin buckled round his body with a belt, received the traveller with great kindness; he gave up his house to Bruce and his attendants, and insisted upon their taking his daughters (he was the father of eighty-four children) as his housekeepers, a proposal which was readily accepted.

Bruce staid at Geesh several days, during which time he was constantly occupied in making various surveys and astronomical observations. He became exceedingly popular with the inhabitants, who were given to understand he was their new sovereign or

governor, and would pay for every thing without exacting taxes or military service.

It is scarcely necessary to inform the intelligent reader, that Bruce's discovery, after all, left the great geographical problem (the real sources of the Nile), which had occupied the attention of so many ages, and baffled the efforts of Cambyses, Alexander, and Ptolemy, still unresolved. It is well known, that in the kingdom of Nubia, about sixteen degrees north of the equator, the great river of Egypt splits into two main branches, called the Bahr el Azrek or Blue River, flowing from the eastward, and the Bahr el Abiad or White River, which takes a western course. These names they derive from the respective colour of their waters, a fact which shows that they flow through tracts of country differing entirely in the qualities of their soil. At their junction, the White River is by far the larger of the two; and for more than a league after their meeting, the waters on each side retain their peculiar colour. There can be no doubt, that this is the main artery of the Egyptian Nile. This, Bruce himself, much to his honour, admits; and conjectures, from the larger volume of water, that it must proceed from a more remote source; so remote, that it yet remains undiscovered, except in the dark floating clouds of the tropics, which give back in periodical rains those copious exhalations which they draw from the great basin of the Mediterranean.

But though this fact is allowed, it scarcely plucks a single berry from the laurels of Bruce. The

turn yellow and rot, the lakes to putrify and swarm with vermin, all this beauty suddenly disappears. Bare, scorched Nubia returns with its poisonous winds and moving sands, glowing and ventilated with sultry blasts, which are followed by a troop of terrible attendants—epilepsies, apoplexies, fevers, agues, and dysenteries of the most obstinate and fatal character."

The city itself, which covers a prodigious space of ground, was built of clay houses one story high, and the floors of earth. Bruce having a present to deliver from the sovereign of Abyssinia, had an interview with the king; he found his Nubian majesty at his toilette, which was performed by a slave rubbing him all over with a rancid compound of grease and butter, with which his head was dripping as if it had been plunged in water.

His fame as a physician introduced him to the royal haram, in which were about fifty sable queens, whose only covering was a narrow piece of cotton rag round their middle. The favourite beauty was a sturdy dame about six feet high, and corpulent beyond all proportion. Next to the elephant and the rhinoceros, she appeared to Bruce one of the largest living creatures he had ever met with. Her features were of the true negro character. A ring of gold passed through her under lip, and weighed it down till it covered her chin like a flap, and left her teeth bare. The inside of her mouth was stained black with antimony. Her ears, to which heavy gold rings were appended, reached down to her shoulders,

and had the appearance of wings; the hole which pierced them was distended by the weight, so as easily to admit of three fingers. On her ankles she wore shackles of gold, larger than the fetters of a criminal. The rest of the princesses were ornamented much in the same way, except that some had rings through the gristle of the nose, and chains fastening the outside of each nostril to the ears. Bruce gratified their curiosity by cupping some of them, until the apartment overflowed with the effusion of royal blood. The colour of his skin, which they insisted upon examining, excited their dislike, as they ascribed it to sickness or disease.

After a detention of four months at Sennaar, during which his funds were so completely exhausted that he was obliged to part with his gold chain until only six of the one hundred and eighty-four links were left, Bruce again set forward (September 8th), crossed the great sandy desert of Nubia, and arrived on the 29th of November in a state of great exhaustion at Syéne. He had been obliged to leave his baggage and papers behind at Soffiena; but having obtained fresh dromedaries from the Aga of Syéne, he retraced his steps forty miles into the wilderness, and had the indescribable satisfaction to recover the whole of his drawings and portmanteaus.

From the point he had now reached, all his dangers may be considered at an end. The journey to Cairo (where he arrived January 10th, 1773) down the Nile, was comparatively safe and easy. His

features and appearance were so totally changed, that nobody in Cairo recognised him. He had not been master of a shirt for fourteen months; his waistcoat and trowsers were made of a bit of coarse brown woollen blanket; and another of the same description was wrapt round him. He wore enormous moustachios, but had parted with his long Abyssinian beard at Fursboot. On his head was a thin white muslin cloth tied round a red Turkish cap; he had neither stockings nor shoes; his coarse woollen girdle was wrapt eight or ten times round his waist; in the left side were stuck two English pistols mounted with silver, and in the right a common crooked Abyssinian knife with a handle of rhinoceros horn.

After a short stay Bruce proceeded to Alexandria; and embarking in a small vessel, he landed safely at Marseilles, after a tedious passage of three weeks. His fame, however, had travelled before him; and no sooner had he reached the soil of France, than the Count de Buffon, M. Guys, and many other literati who had taken a particular interest in his journey, came to congratulate him on his return, and to listen to the recital of his adventures and discoveries. His reception at Paris was equally flattering; his travels became the subject of general conversation, and his society was courted by people of learning and rank. In July he repaired to Italy, being anxious on account of his health to try the baths of Poretta.

Here he made a discovery that annoyed him

more than all the perils and sufferings he had undergone. While consul at Algiers, he had fallen in love with a Scotch lady, to whom he had engaged himself by a promise of marriage. In all his wanderings he remained faithful to his engagement: he drank the health of Maria at the fountains of the Nile, and in the dreary desert her charming image was constantly before him. It is easy to conceive his mortification and sorrow when he found that the lady had forgotten him in his long absence, and was then at Rome, comfortably married to the Marchese d'Accoramboni. Bruce appeared without delay before the gates of the Marchese, and insisted that he would either apologize or fight him. The latter, who was entirely unconscious that any such engagement had ever existed, declined both proposals, evidently not a little uneasy at the idea of encountering a gaunt, weather-beaten, sunburnt savage, in stature six feet four inches good English measure, and with feelings doubly irritated with disease and disappointment. This absurd affair ended with a polite note from the Marchese, who expressed the profoundest respect for the character of his antagonist.

At Rome, where Bruce remained for some months, he received marks of particular attention from the nobility, and was presented by Pope Clement XIV., the celebrated Ganganelli, with a series of gold medals, relating to several transactions of his pontificate. In the spring of 1774, he returned to France, and very shortly afterwards arrived in

England, from which he had been absent twelve years. He was introduced to George III., who not only accepted his drawings of Baalbec, Palmyra, and the African cities, but complimented him on the personal exertions he had made to enlarge the bounds of geographical science.

His company, while in London, it may well be supposed, was courted by all classes, the learned and the gay, the young and the old. In describing his adventures, he generally related those circumstances which he thought most likely to amuse people, by the contrast they afforded to the popular customs, fashions, or habits in Europe. But his narratives were so new, so extraordinary, so romantic, and related scenes and manners so totally different from any thing that had been known or heard of in England, that his facts appeared too strong, and his statements began to be received with a degree of incredulity. He was assailed by poets, critics, reviewers, and garret philosophers, from Dr. Johnson to Peter Pindar, who ridiculed the possibility of human beings eating raw flesh, wearing rings in their noses or lips instead of their ears, using rancid butter for pomatum, and plaiting their hair with the entrails of animals instead of playing tunes upon them. All this appeared so horrid, so barbarous, and so un-English, that Bruce was generally regarded as making too free with the traveller's license, and amusing the public with idle fables.

It has been already mentioned that the veracity of Bruce has, since his time, been corroborated by

every traveller that has visited those regions which he describes. Some of his bitterest enemies have, even unwittingly, borne testimony in his favour; and many of his facts that appeared most incredible have been verified, by comparing them with the state of manners and society that is found to exist among other barbarous nations. Bruce, however, was too honest to sacrifice truth to the love of popularity, and too proud to submit to the insolence of his detractors; accordingly, in sullen indignation he retired to Scotland in the autumn of 1774, and took up his residence on his patrimonial estate of Kinnaird. The rebuilding of the mansion-house, and other arrangements which a long absence had rendered necessary, occupied his attention for more than a year and a half, and in some measure diverted his mind from the subject which most naturally and severely oppressed it.

In March, 1776, he married Miss Dundas, daughter of Thomas Dundas, Esq. of Fingask, by his wife, Lady Janet Maitland. This amiable and accomplished person was much younger than Bruce; she lived with him nearly twelve years, and died in 1785, leaving him two children, a son and a daughter. This event threw him into a state of melancholy, which his friends endeavoured to remove, by advising him to silence for ever the calumnies of his literary defamers, by publishing an account of his travels. To this persuasion he at length yielded; and as soon as he had resolved to undertake the task, he performed it with his usual energy and

success. In 1790, seventeen years after his return to Europe, his journals were printed and laid before the public in five large quarto volumes, dedicated to the king. In his preface, he frankly explained the reason which had delayed the publication so long; and he admits, that "an undeserved and unexpected neglect, and want of patronage, had been at least part of the cause." The work, on its appearance, was attacked by the same violent spirit of contradiction that had incessantly persecuted the author; and it is stated, that in consequence of these calumnies, several copies of it were sold in Dublin as waste paper. The fame and honour of Bruce have long ago emerged from the cloud of misrepresentation which ignorance and prejudice had gendered; and his name will go down to posterity as one of the most brave, honourable, intelligent, and enterprising travellers that Great Britain ever produced.

The remainder of his history is short. His domestic occupations were divided between the care of his estate and his literary pursuits. His fondness for astronomy induced him to erect a temporary observatory on the top of Kinnaird House, where he made his observations, dressed in the Abyssinian costume; a circumstance which made the good people in the neighbourhood believe that "the laird was *gaen daft*." He was often dressed in a turban, and used almost every morning, in company with his young and amiable daughter, to ride slowly over his grounds to his coaleries, mounted on a

charger of great power and size, which he required in consequence of his extreme corpulence and weight. He occasionally visited London, and kept up a correspondence with the Honourable Daines Barrington, Buffon, and other men of science. He sometimes amused himself in translating the prophecies of Enoch, and even projected an edition of the Bible with notes, pointing out numberless instances in which the Jewish history was singularly confirmed by his own observations.

His temper was irritable, and exceedingly sensitive on the contraverted points of his travels. One day when visiting a relation in East Lothian, a gentleman bluntly remarked in his presence, that "it was impossible the natives of Abyssinia could eat raw meat!" Bruce said not a word, but left the room, and immediately brought from the kitchen a piece of raw beef-steak, peppered and salted in the genuine oriental style. "You shall eat that, sir, or fight me," he said, handing the platter to the sceptical gentleman; which task being most reluctantly performed, "Now sir (said Bruce calmly), you will never again say it is *impossible.*"

The last act of his life was one of courtesy. A large party had dined at Kinnaird; and when the company were about to depart, Bruce, who was gaily talking to a young lady in the drawing-room, observed that her aged mother was proceeding to her carriage unattended. In hurrying to her assistance, at the head of the great staircase, his foot—the foot that had borne him in safety through so many dangers

in so many distant lands—slipt; he fell down several steps, broke some of his fingers, pitched on his head, and expired. Every attempt to restore animation was unavailing, the vital spark had fled. Four days after his death, the body was deposited in the church-yard of Larbert, in a tomb which Bruce had built for his wife and his infant child. In passing through that village, the eye of the traveller is arrested by a monument, plain in its architecture, but somewhat more conspicuous from its position than the rest. It marks the spot where reposes the dust of the celebrated explorer of the fountains of the Nile. On the south side is the following inscription:—

IN THIS TOMB ARE DEPOSITED THE REMAINS
OF
JAMES BRUCE, ESQ. OF KINNAIRD,
WHO DIED ON THE 27TH OF APRIL, 1794,
IN THE 64TH YEAR OF HIS AGE.

HIS LIFE WAS SPENT IN PERFORMING
USEFUL AND SPLENDID ACTIONS:
HE EXPLORED MANY DISTANT REGIONS:
HE DISCOVERED THE SOURCES OF THE NILE:
HE TRAVERSED THE DESERTS OF ARABIA.

HE WAS AN AFFECTIONATE HUSBAND,
AN INDULGENT PARENT,
AN ARDENT LOVER OF HIS COUNTRY.

BY THE UNANIMOUS VOICE OF MANKIND,
HIS NAME IS ENROLLED WITH THOSE
WHO WERE CONSPICUOUS
FOR GENIUS, FOR VALOUR, AND FOR VIRTUE.

INTRODUCTION.

With those who take any interest in Natural History, it is as natural to inquire the country and the name of an unknown animal, as to put the same questions regarding a foreigner, whose features and garb differ from our own. In either case, the name to ordinary persons, even when heard, conveys no ideas associating with those he already has; it remains a fact, indeed, but "bare and barren." The locality, however, or place of residence of the stranger, brings with it some degree of interest, either with things we know of or have pictured to ourselves. We feel as if we could recognize the bird if we saw it again, and we connect it in some way with the general ideas we have formed of that country of which it is a native.

It is known to every intelligent reader, that the five great divisions of our globe are peopled respectively by the five leading varieties of the human species; and that each of these, again, present us with numerous variations of a secondary character,

regulated in the same way by the position of the different kingdoms and provinces. There is, in short, a national physiognomy superadded to those features of our race, which are common to all, by which even ordinary observers are generally able to detect a Frenchman from an Italian, or a Scotchman from an Englishman. This nice discrimination, however, is the result of observation. To us, the negroes of Africa appear destitute of these national or provincial marks, and to be all alike; but this is a great mistake. These sable nations exhibit, to the practised eye, as much diversity, not merely in the colour of their skin, but in their cast of features, as any of the European nations. And a Gold-coast negro is as different from a Bushman Hottentot, as the modern Greek from the dwarfish Laplander.

We should scarcely have adverted to facts so generally known as these, but for the purpose of showing, that the laws by which the great Creator of all things has regulated the earth and its inhabitants, extends to all who live and move and have their being upon it; and that the endless variety which we meet with in the animal world, is nearly as much subjected to this law of GEOGRAPHIC DISTRIBUTION, as are the different races and families of mankind. It is by this term that the study of geographic natural history is now designated. It is a branch of science altogether new; for although its elements seemed to have attracted the attention of Linnæus, and some insulated theories have been

promulgated by several of his successors, they were framed without any definite reference either to the dispersion of the human race, or to the harmonious union of their parts. It was with a view, therefore, of attempting to generalize all that was then known on the dispersion of animals, that we discovered they could all be classed under the very same geographic limits assigned by Cuvier and Blumenbach to the five leading races of man; and into which the best geographers of the present day have divided the globe. These may consequently be considered zoological provinces, corresponding to the several divisions of *Europe*, *Asia*, *Africa*, *America*, *and Australia*.

In stating, however, the general fact, that each of the large divisions of our globe has its own peculiar animals, the reader must not be led into the belief that this law is altogether absolute, or that there are not several examples of one and the same species inhabiting countries, not only adjoining each other, but sometimes laying widely asunder. Examples of the latter, however, are much more rare than of the former. The animals of one range will always be commingled with those of another, on the confines of their respective countries: and there must consequently be those lands debatable which serve to connect two different districts or zoological provinces: these may be likened to those softer and graduating tints which serve to blend the opposite colours of the rainbow, and produce that harmony which pervades every part of creation. Some animals

also have a much wider range assigned to them than others; and a very few, inhabiting different continents, are restricted only by temperature. Thus, between the magpie of England, North America, and China, specimens of which are now laying before us of each locality, not the slightest difference can be detected; and yet these birds are never found, in either of these continents, beyond the limits of wintery cold. Birds, of all other animals, might be thought at first to be exempt from this law of nature, seeing that they are such volatile beings, and capable of traversing immense distances in surprisingly short periods. But this opinion is not borne out by facts. The common house-swallow of Europe might reach America with as much ease as the coasts of Africa, and there enjoy the same warm temperature, and find as great an abundance of insect food. But its course has been ordained otherwise. Its Almighty Creator has implanted in it the destined route it is to pursue, and from that route it never deviates, whether on the right hand or on the left. To speculate upon the causes of such things would be idle; we can only wonder at the fact and be silent. Sea birds have a much wider range than those inhabiting the land; probably because their supplies of food, drawn from the ever-waving sea, and the ever-changing depositions of its tides, are much more precarious. And yet, even among these tribes, great regularity may be observed in general within geographic range, although these ranges in themselves are much more extensive than

in other birds. It is singular, that although nearly all our different species of ducks are found likewise in temperate America, not one has yet been discovered further south than the lakes of Mexico, while those of Brazil are totally unknown to the northward of the isthmus of Darien. The waders, forming the grallatorial order, are the most widely dispersed of all birds, for several of those found in Europe occur on the shores of India, North America, and Western Africa; and if our naturalists have not been deceived, our well known wimbrill (*S. phœopus*) is actually the same on the shores of New Holland. Such examples, however, of cosmopolite birds are exceedingly rare; it must be remembered also that in a circle extremes meet; and as this disposition is equally apparent in the geographic distribution of animals, as in their natural classification, so we may reasonably expect that the two polar regions of our globe would contain some species common to both. The accounts, however, of travellers, who are not themselves naturalists, and even those which are found in many of our systematic works, must be received in many instances with great suspicion; because the black crow inhabits New Holland and seems to fly and *caw* like our own, it has been set down as the same species. The little gold-crest, *Sylvia regulus*, in like manner is asserted to inhabit America and a number of places out of Europe; whereas it is strictly confined to the latter continent, although represented by other species in widely separated regions. For

a long time, our house-swallow, *Hirundo rustica*, was believed to fly both to Africa and America; but that of the latter country has been found to be quite a distinct species.

The American race of mankind is certainly the most distinct, for it is only towards its northern extremity that we find in the Esquimaux tribes an approximation to the Finlanders of Europe or the Kamtschatka families of Asia. Now this is precisely the case in respect to the distribution of birds. In the Arctic Regions, more than four-fifths of the species discovered during the northern expeditions are actually the same as those of northern Europe, but of these only nine are land birds. Beyond these limits the ornithology of America begins to assume the same isolated character so conspicuous in the phisiognomy of its human races.

Such are a few only of the results that have attended our investigations on the geographic distribution of animals, but more especially of birds. And we merely introduce these general remarks on the present occasion, that our juvenile or unscientific readers may form ideas on the subject at large, and on the "local habitation," which the secret and mysterious laws of a beneficent Creator have imposed on the countless beings which cover this goodly earth. The arrowy course of the swallow—the wanderings of the albatross—or the soaring of the eagle—are all directed to certain points, and are confined within limits, invisible indeed to the material eye, yet as impassable and as exclusive as a

wall of brass. "Hither shalt thou come, but no further," with safety or comfort to thyself. This command, although not pronounced, is a part of the natural instinct of every animal in a state of nature. Domestication can do much, but its effect is almost entirely limited to those animals which have been marked out by our Creator as destined to the service of man. Let him be thankful for these exceptions, and not, with a modern philosopher, idly boast of "*man's conquest of nature*," when his highest faculties cannot domesticate—a worm!

Of all the zoological provinces into which our globe is divided, Africa is the most unexplored. The land thirsty and desolate—the people savage and idolatrous—the climate burning and pestilential; we trace all that can impede and resist civilization, and the prosecution of research. The interior of Africa is like the fabled upas-tree of Java; and of nearly all those adventurous spirits who have set out to gather its fruits, nothing remains but their whitened bones. The zoology of Africa is even less known than its geography. Its coasts, at least throughout its circumference, have been traced out by navigators; but the natural history of only two or three insignificant parts, when compared to the whole, has been investigated; while of the vast regions intervening between these distant spots, we know little or nothing. The ornithology of Egypt was well explored in the direction of the march of the French army, by the inimitable Savigny, and those learned men who accompanied it; Rüppell

has brought some striking novelties from Nubia, and recently from Abyssinia; while some of the birds of the latter country, collected and sent to England by the late Mr. Salt, have been imperfectly mentioned*. These, in short, are the only gleanings that have been made in the vast extent of three-fourths of this wide-spreading continent; for even the shores bordering upon the Mediterranean, and the fertile and well-wooded provinces of Asia Minor have been quite neglected, notwithstanding the interest they possess in determining the limits of the three regions which there meet, namely, Europe, Africa, and Asia. It is only in the southern extremity, long inhabited by Europeans, that any thing effective has been yet accomplished. The name of Le Vaillant takes the lead in this quarter, and the six splendid volumes that he has given to the world, record how great was the success that attended his exertions in our favourite science. Yet notwithstanding his numerous discoveries, many others remained to be made; and the three zoologists who subsequently chose this field for their exertions, Lichtenstein, Burchell, and Smith, added materially to our list of S. African birds. The latter naturalist, more especially, has already transmitted to this country many new and interesting species.

Such, in a few words, is the state of our knowledge on the ornithology of Africa, up to the present moment; so that the portion we have now selected

* Unfortunately nearly all these species have been mixed up in the old genera, so that they become as useless to modern science as if they had not been discovered.

for geographic illustration is entirely new. The bird-skins of Senegal, indeed, have long been made an article of traffic with this and other countries, and hence the descriptions of many species will be found scattered in our systems. But these, comparatively, are few, and there is as yet no connected account of this geographic division of the African continent, although it is unquestionably the richest in point of splendid colouring, and inferior to none other in scientific interest.

A more general and accurate idea of the peculiarities of this portion of African ornithology will be gained, by taking a rapid glance at those of the northern and southern extremities. The long line of coast bordering on the shores of the Mediterranean, as we have just remarked, has never been sufficiently investigated; but we know that those countries are the extreme limits of several groups, of which no species are to be found on the opposite shores; while, on the other hand, very many are common to both. Of these latter, the most remarkable are migratory; passing from the African continent to the south of Europe in the spring, and returning there in the autumn. It is from among these migratory tribes that Europe derives the greater part of her most gaily coloured birds; such as the common bee-eater (*Merops Europæus*), the golden oriole (*Oriolus galbula*), the European roller (*Coracias garrulus*), the common hoopoe, and several others less striking. These large flocks are followed by several species of the falcon and

owl families, which prey upon the stragglers. Nor is this similarity between the birds of the two continents confined only to such as inhabit the land. It is a curious and unrecorded fact, that a migration almost equally extensive takes place among the waders and swimmers. During many years residence, for instance, in the island of Sicily, a spot peculiarly favourable for carrying on observations of this nature, we never met with the purple or the night herons, or the glossy ibis, except during the spring or autumnal migrations; at such times the whole island may be considered like a vast preserve of quails, and numerous other migratory birds. In respect to the small soft-billed or fly-catching species, forming part of the fly-catcher and warbler families, little can be said beyond the fact that their route is southward, after leaving our hedges and woods in the autumn. They do not appear to take Italy or Sicily in their way, which, if they ventured on the shores of Northern Africa, it is more than probable they would do, seeing that the configuration of those countries renders them resting places, as it were, for such feeble winged birds before they ventured to cross the Mediterranean. Northern Africa is certainly the boundary of the African bush-shrikes *(Malaconotus)*; one species, the beautiful *M. barbarus*, seems the most northern visitor, while its southern range extends to Senegal. There must be many birds peculiar to sandy deserts in the arid tracks of Barbary, Algiers, &c. which would find no congenial locality on the fertile shores of the

opposite coast. The discoveries of Rüppell sanction this belief; although his researches were prosecuted further inland, and consequently more towards the central regions.

On taking a general survey of the numerous tribes composing the ornithology of Southern Africa, we find scarcely any species of the perching order common to the two extremities of the continent. Le Vaillant, indeed, is of opinion that the great horned, the long horned, and the little horned owls of the Cape colony, are all identically the same as those of Europe; but as we shall subsequently shew that, in one of these circumstances, there is every reason to believe he is mistaken, so a reasonable doubt may arise upon the others. This much is certain, that of the species of the falcon tribe, figured in his work on the birds of Southern Africa, none are to be found in Europe; and only one out of those now described as natives of Western Africa, is mentioned by our author as likewise inhabiting the southern extremity.

The numerical results which will be given in a subsequent table, will bear us out in the assertion, that the western ornithology is fully as different from the northern, as this latter is from the southern. There are, nevertheless, many points of resemblance between the birds of Senegal and those of the southern districts, which serve to connect them without diminishing those peculiar features which each possess. This union is effected by the migratory species of Western Africa, several of which annually

take their flight southward and return to Senegal after a temporary residence on the plains of Southern Africa. This fact was conjectured by Le Vaillant, and it is fully confirmed by our own investigations, drawn from the specimens that have been recently imported from Senegal and Senegambia. Hitherto this fact only regards the splendid genus *Lamprotornis*, which may be called the African starlings; but future information will, no doubt, shew us that a southern migration takes place in other instances. It may be questioned, however, whether any of the Senegal birds go northward, excepting those more peculiar to the banks of the Gambia, which are likewise found in Britain, and the two or three species of perchers, formerly noticed as extending to Northern Africa and Central Europe*. Adanson asserts that our house-swallow is the same as that of Senegal; but we have no means of judging the accuracy of the statement.

The first peculiarity that strikes us in contemplating the ornithology of Senegal, is the great preponderance of richly coloured birds. Now this circumstance may be accounted for in two ways. Either it is the result of commercial speculation among the dealers, who imagine that such birds will find a better market in Europe than those of a more homely plumage; or it is a real peculiarity, and therefore arising from natural laws. We believe this latter to be the true reason. In the following pages we shall have to describe a very considerable

* Merops Europæus.

number of plain coloured species, which would certainly not have been transmitted with the more attractive sorts, had not *variety* been consulted by the dealers, in what they call their "assortment," as much as *beauty*. In the second place, this splendour of plumage is in unison with that law which renders the productions of nature more rich and luxuriant, whether in growth or colours, in proportion as the countries they inhabit approximate the equinoctial line. This we find in the splendid variety of birds on the opposite coast of America, and in those far more magnificent races which inhabit the torrid islands of the Indian Ocean. The forests of Parrá contain the most splendid of all the Brazilian birds, while it will be remembered that the whole of the paradise birds are restricted to New Guinea and the little isles of Aro and Banda in the Malayan seas.

It may be reasonably inferred, also, both from this richness of colour, and from the particular families to which many of these birds belong, that they have been met with in a woody country where the vegetation is also luxuriant, and where insects and fruits,—the two chief sources of nourishment to birds,—are in plenty and perfection. We have indeed no positive information on the geographic features of the districts, or of the precise localities where these birds were collected; but by far the largest proportion of them feed upon insects which inhabit the vicinity of woods, or upon fruits which grow therein. The collection contains very few of those genera which live only in open plains or in

desert tracts; such as the genera *Saxicola*, *Alauda*, *Otis*, *Perdix*, *Pterocles*, &c. most of which occupy a much larger proportion in the ornithology of Southern, than they appear to do in that of Western Africa. The rollers and bee-eaters live entirely upon insects, and are only to be found in the skirts of thick woods; not one of these is found in the arid districts of the Cape colony, while from Senegal it will be seen that we now describe no less than five species of the latter and three of the former.

The family of the cuckoos, again, chiefly live among high forest trees; for even the European species is very seldom met with in districts covered only with low shrubs or hedges. Hence it is, that the birds of this group, inhabiting Southern Africa, are only found in the thick forests towards Algoa Bay, and in a few other well-wooded situations; six species, however, have been received from Senegal, two of which belong to the splendid shining group of *Calcytes*, met with by Le Vaillant in the forests just mentioned. The scansorial tribe, as every one knows, is strictly arboreal; and of these we possess eight species. The splendid sun-birds *(Cinnyres)* derive their sustenance from the nectar of flowers, and probably from the minute insects found therein; now of this single group we shall describe no less than eight species, some of which (from the number of specimens sent) must be very common. These facts are sufficient to show, that however arid and treeless may be the interior districts of Western Africa, yet that in Senegal there must be many

tracts of humid and luxuriant vegetation diversified with thick forests and flowering shrubs, capable of producing animal and vegetable food for birds which could only exist in such situations.

On the chief peculiarities of Senegal ornithology, in regard to the species and the natural groups to which they belong, a few general observations only can be hazarded. Some few of the very largest sized birds, sent with the others to this country, passed into other hands before we had inspected them; and it is probable many other species, at present unknown to us as natives of this part of Africa, may be sent through the exertions of Lieutenant Governor Rendall of our colony on the Gambia. We must, therefore, confine our remarks to the most prominent groups, without venturing upon numerical details.

In the rapacious order, independent of several of the large eagles, &c. described by authors, and which must chiefly live upon quadrupeds, we find such a sufficient proportion of falcons which prey upon small birds, as to justify the supposition that the latter are more plentiful than would appear from the species we yet know of; this confirms our suspicion that we are yet ignorant of many of the fly-catchers and warbles of this district, in which it will be seen that our catalogue is very deficient. Further confirmation of this belief will be found in the number of shrikes, most of which live on the nestlings or young of small birds, and upon their eggs. The bush-shrikes are as numerous here as in

South Africa: there are five species, two of which are found at the Cape. The *wood-chat* is precisely the same as ours; but the singular genus *prionops* is peculiar to the western countries*.

Senegal appears the chief metropolis of the widau finches, the males of which, during the breeding season, are decorated with very long feathers in their tail; out of this species, four are natives of this country,—while the splendid *Lamprotorni* or starling grakes, although dispersed as far as the Cape, appear to make Senegal their true place of residence. The sun-birds are certainly more abundant here than in the south, while their range appears not to extend so far as the Barbary coast: they represent the humming-birds of the New World, and seem, like them, to congregate most in those countries which are the hottest. The distribution of these charming birds in a longitudinal direction, extends only to the Cape, but is spread laterally to India and its islands; they disappear very suddenly towards the limits of Northern Africa, since only one species appears to have been met with by Rüppell.

Western Africa, again, is almost the peculiar region of one of the most lovely and interesting families, small in the number of the species, but splendid in colouring and peculiarly interesting from their structure. We allude to the *Musophagidæ* or plantain-eaters, in which group we comprehend also

* Rüppell describes a *prionops* from Northern Africa.—EDITOR.

the turraccos; the violet species (*Musophaga violacea*) has ever been a favourite bird with ornithologists, and it is more frequently met with in the forests of Senegal than on the Guinea Coast, where M. Isert, its first describer, mentions it as particularly rare; besides the two species of this group which we actually know to be natives of this coast, there are two others which authors describe as likewise natives of Senegal.

The existence of at least three species of halcyon, where not one is found, as we believe, in Southern Africa, proves that the distribution of these forest king-fishers, or rather crab-eaters, are distributed in a lateral direction within a certain distance on each side of the equator. The only exceptions being two or three species found in Australia.

Of the gallinaceous or rasorial birds little can be said. Western Africa appears the metropolis of the Guinea fowls, and our list contains a species apparently new. There are, no doubt, on the sandy districts, several other species of land-grouse (*Pterocles*) and of partridges, than those few which have yet come to our hands.

The mouth of the river Gambia is frequented by several aquatic birds, which will be more particularly noticed in another volume.

Having now, by this rapid sketch, sufficiently prepared the reader for entering into the details of this volume, we shall at once proceed to describe the subjects themselves.

It will hardly be necessary to inform the orni-

thologist that the classification here employed will be in conformity with that theory, on the principles of the natural system, which we have already given to the world in other works*. The species will be arranged under their natural families; and when they possess any remarkable relations, not hitherto observed, occasional notices on these points will be introduced. Commencing with the Raptorial order, or the

BIRDS OF PREY,

we find several species mentioned by different authors as inhabiting Senegal, which we are compelled to omit; partly because we cannot vouch for their locality, not having seen imported specimens; but more especially because we studiously avoid, on nearly all occasions, copying from others the descriptions of animals we have never seen, a custom which has led, in a great number of instances, to erroneous accounts, drawn up at a time when the science was emerging from its infancy†. Our work may thus be thought to loose something in the variety of its materials, but this we trust will be compensated by its greater originality and accuracy. Besides, we desire to make our volume not only

* Fauna Boreali Americana, or Northern Zoology; Classification of Animals, &c.

† Even some of the best ornithologists pay so little attention to the variations of structure, and pass over so many points necessary to be understood, that their descriptions are of little service beyond informing us on the mere colours of the plumage. Those for instance, in the *Planches Coloriees* of MM. Temminck and Langier, are particularly defective in this respect

popular, but of some permanent value and of some scientific authority. We deem it incumbent to state the reasons that have guided us in refraining, for the present, from including in our list *all* the birds *supposed* to inhabit Senegal; and as none of the vulture family have yet reached us from that country, we at once proceed to the

FALCONIDÆ OR FALCON FAMILY,

confining our attention to those species only of which specimens are now before us. They all belong to the two most typical or perfect divisions of the family, namely, the noble falcons (*Falconinæ*), and the hawks (*Accipitrinæ*). The first we shall notice is one of the most rare and interesting birds in the whole collection, and which appears to be the type of a distinct sub-genus of true falcons; and we therefore characterise it as the

CUCKOO FALCON.

Aviceda cuculoides, SWAINS.

PLATE I.

Above cinereous, with the back and scapulars brown; the throat and breast pale cinereous; body whitish, crossed by broad brown bars; vent and under tail-covers fulvous, immaculate; tail even, cinereous, with a broad terminal bar.

THE true Falcons are well known to have but a single tooth in the upper mandible of their bill, which, with their long and pointed wings, readily distinguishes them from all others. There is, however, in tropical America, another race, forming the genus *Harpagus*, which is characterised by the upper mandible having two distinct teeth, like projections on each side, and possessing shorter and more rounded wings: these two groups follow each other in the natural series, for they are connected by the *Harpagus cœrulescens*, one of those aberrant species which is essential to every natural group or subgenus, in order to unite it with that which follows. These being the two most typical genera, we next have the crested form, after which, as we conjecture, comes the beautiful Falcon here described and figured, we believe, for the first time. It is such a perfect

CUCKOO FALCON

prototype of the hook-billed kites of tropical America, that but for its bill, it would be impossible to distinguish the two genera, while both are disguised in the plumage of the cuckoos; or that family they both represent in their respective circles. By the discovery of this beautiful bird, we can thus trace four of the sub-genera or primary divisions of the true falcons; the fifth, which will represent the buzzards, alone remaining to be determined.

The general form of this remarkable type may be thus briefly described. It has the long wings of a buzzard, the tips reaching to within two inches and a half of the extremity of the tail: the three first quills are graduated, and slightly sinuated in the middle of the inner web; the tail is broad and quite even; the bill is very like that of the genus *Cymindis*, being broad and compressed, but the tip is less elongated and the two teeth on each side are situated near the tip, as in all the typical falcons; the nostrils, as in *Cymindis*, are closed, and merely open by a transverse slit; the feet also are in like manner similar to those of the group this type obviously represents; the tarsus is so short, that it is inferior in length to the middle toe, and is feathered half way down, the remaining portion being covered with irregularly shaped somewhat hexagonal scales; the soles of the feet are remarkably broad, and all the three toes are cleft to their base; the outer toe is shorter than the inner one, and is only as long as the hinder, leaving out the measurement of the claws. The whole form, in short, is precisely that

of a *Cymindis*, except in the bill, which is of the true falconine structure, and at once shews us under which of the primary divisions of the family this remarkable bird should be placed.

We may now describe the colours. The general tint of the upper plumage, including the wings and tail, is of a very dark cinereous, almost approaching on the wings to blackish; the middle of the back, however, and the scapulars, are dark-brown; the ash colour being more clear on the head and tail. The under plumage from the throat to the breast is of a light ash, which there changes to a cream-coloured white, banded with broad bars of blackish-brown, of which there are two on each feather. These bands disappear on the thighs, belly, and under tail-covers, which are deep buff or ferruginous, and without any markings. The inner shafts of the quills are cinereous-white, those of the primaries only having from five to six remote black bars, most conspicuous on their upper surface; the inner wing-covers are ferruginous, without any markings. The tail has a very broad band of black at its tip, and a few irregular half bars at the base of the outermost feather; cere and feet yellow. Total length about 16 inches; bill, from the gape, $1\frac{1}{10}$; wings, 13; tail beyond, $2\frac{1}{2}$; from the base, 8; tarsus, $1\frac{1}{10}$.

RUFOUS NECKED FALCON

RUFOUS-NECKED FALCON.

Falco ruficollis, SWAINS.

PLATE II.

Body above, dark-cinereous; beneath, white, and both banded with narrow black lines; head and neck above, rufous; ears with a semi-circle of black; beneath the eye a black stripe; throat and breast cream-coloured white, without bands.

Le Chicquera? *Le Vaillant, Ois. d'Af.* i. Pl. 30.

THIS is one of the smallest and most elegant Falcons yet known; we suspect it is also rare, since only one specimen has been received in the Senegal collections, and we have not met with it in any of our public museums. It has a general resemblance to the *Chicquera* of Le Vaillant, but that has no semicircle of black half round the ear, or the black stripe beneath the eye; there are also a few other differences. Le Vaillant expressly tells us, also, that his bird was sent from Bengal; and another author asserts that the *Chicquera* is found both in Java and Pondichery. These localities are so vastly remote from Senegal, that we cannot, so long as there is any difference in plumage, suppose that the same species inhabits regions so wide asunder.

The size of our bird exactly corresponds to that of the little American *Falco sparverius*, which it rivals in beauty of colouring. Commencing just above the eye (for the front is nearly white), the upper part of the head and neck is of a rich rufous; the feathers of the crown having a narrow black stripe down the middle of each; this rufous colour is separated from the ears by a narrow stripe of black, which takes a curve almost round the ear feathers, and nearly meets another black stripe, tinged with rufous, which commences at the anterior corner of the eye, and then passes under it, like a moustache: round these stripes, and on the sides of the neck and breast, there is a delicate shade of rufous, which blends into the creamy white of the throat and breast. The whole of the remaining upper plumage is of a full dark cinereous, banded throughout with distinct blackish bands nearly as broad as the spaces are between them. The tail has the same ground colour, with about nine narrow blackish bars and a very broad one, which is the last; the extreme margins of the feathers having a narrow edging of white. The whole of the under plumage, from the breast to the tail-covers, is banded like the back, but upon a whitish ground. The cere and feet are bright yellow; the bill, as usual, blueish, and the claws black. Tail rounded, one inch longer than the wings. Total length, 10 inches; wings, $7\frac{3}{4}$; tarsus, to the sole of the foot, $1\frac{1}{2}$; middle toe below, $1\frac{6}{10}$; tail, $5\frac{1}{2}$.

RUFOUS KESTREL FALCON.

Falcon rufuscens, SWAINS.

Ferruginous, banded above, and striped beneath with black; external parts of the quills entirely brown, immaculate.

THE true Falcons, like nearly all pre-eminent types of families, are dispersed, with little or no variations, over the five zoological provinces of the world. The species, indeed, are different, but the structure is the same.

The species now before us is intimately related to the Kestrel of Java, both in its size and general cast of colouring, while both, in point of structure, offer not the slightest difference from the well known *Falco sparverius*, or American sparrow-hawk. We cannot, therefore, with all our predilection for geographic groups, consider them as belonging even to different sections of the same sub-genus.

Both sexes of this species are now before us. The male, which is the smallest, differs from the female in having the upper tail-covers and the ground colour of the tail-feathers themselves of a light grey or slate colour. In all other respects, the following description is applicable to both.

General colour of the plumage cinereous or light rufous, much paler beneath; cere, bright yellow; bill, blue. Head, neck, and their sides, marked with narrow stripes, one being down the shaft of each feather, but none on the chin, and scarcely any on the ears. The whole of the back, rump, tail, wing-covers, and tertials are marked with transverse bands of brownish-black, at nearly equal distances from each other; of these, there are generally three on each feather, one in the middle, and one at each end. The terminal band is broadish, and that at the base is obsolete on the smaller feathers. The long tertials and the larger covers have four bands, those on the latter being of equal breadth, and equal distance from each other. The middle tail-feathers have from nine to ten of these bands, which run directly across the two webs towards the end of the feathers, but become alternate at the base; besides these, there is a terminal band nearly an inch broad, and which leaves the extreme tip, or margin, dull whitish. The spurious quills are dark brown, with four external spots of ferruginous; the lesser quills the same, but with five spots, opposite to each of which, on the inner web only, is a transverse spot of the same colour. The greater quills have the whole of their outer webs *entirely brown*. It is by this peculiar character that the species is distinguished, for in the Javanese bird the greater quills have five distinct spots on their outer webs. The inner webs of our bird are marked with the indented bands, usual in the

Falcons. The inner or under surface of the wings is cream-coloured white; the bands just spoken of being hardly discerned, but there is the faint appearance of ten on the first quill; the lesser covers are each marked with two spear-shaped spots, and the greater with two transverse bands of black. All the under plumage, from the belly, is striped with black down the middle of each feather, these stripes generally becoming tear-shaped; they are very small, and almost disappear on the thighs, and there are none on the belly and under tail-covers. Feet, bright yellow; claws, black. The wings are nearly as long as the tail, and the notch on the second quill is nearly obsolete. The tail is rounded.

Dimensions of the female, 13 inches; bill from the gape, $\frac{8}{10}$; wings nearly 10 inches; tail, from the base, $7\frac{1}{4}$; tarsus, $1\frac{4}{10}$.

As a further distinction between this and the species from Java, we may remark, that in the latter the plumage beneath is transversely *banded*, whereas in this it is longitudinally *striped*.

GREY FALCON.

Falco concolor, TEMM.

PLATE III.

Entirely cinereous, with the shaft of each feather marked by a black stripe; quills, black; tail with numerous white bars, which are obsolete on the outer webs.

Falco concolor, *Temminck, Pl. Col.*

IT is seldom we find, among the Falcons, that the plumage is so strikingly coloured as to distinguish a species at first sight. Their general cast of colouring is in spots, stripes, or bands; mixed up with different shades of brown, so that it becomes extremely difficult to express, by words, all those minor shades of difference which the practised eye of the naturalist detects at a glance, when the objects themselves are brought under comparison.

The bird before us, however, is one of those whose colours are altogether peculiar. Its whole plumage is of a deep slate colour, somewhat paler beneath, and with a brownish tinge in some parts of the upper plumage; this uniformity is only relieved by a slender stripe of black down the centre of each feather; these stripes are darkest and most conspicuous upon the head, ears, neck, breast, and under parts; they become faint on the lower part of the back, wing-covers, belly, and vent,—while they are

Swainson del.

Lizars sc.

GREY FALCON

altogether wanting on the under tail-covers. The quills, externally, are entirely black; but, upon looking to their under surface, it will be seen that this inner web has numerous white bars for about two-thirds their length from the base: of these there are about fourteen on the first quill, those nearest the tip being very distinctly marked, but the rest becoming gradually less defined towards the base. The tail exceeds the length of the wings by about two inches and a half; its form is much rounded, the outer feather being more than an inch shorter than the middle ones; its upper surface, when not expanded, is of the same uniform grey as the back, with some obscure whitish bands on the outer webs of the lateral feathers: but when the tail is spread, the four lateral feathers on each side are seen to be thickly banded with white, precisely like the quills of the wings, the middle feathers being almost free from these markings; the shafts of all are of a deep and glossy black, thus preserving a uniformity with the rest of the plumage: the bands on the tail-feathers are so crowded, that sixteen may be counted on the outermost feather. Orbits, cere, and feet, bright-yellow; claws, black; bill, blueish. The general form of this bird is somewhat thicker than that of the last; the bill is larger and the wings shorter, since they reach only to about half the length of the tail. The black whiskers, so universal in this division, are short, although very distinct. The whole structure of the bird, however, is that of a typical Falcon.

BLACK-CHINNED GOSHAWK.

Aster monogrammicus, SWAINS.

PLATE IV.

Cinereous; chin white, with a central black stripe; body, beneath, marked with numerous transverse bands; tail rounded, black, with the base and band before the tip white.

Falco monogrammicus, *Temm. Pl. Col.* 314.

WE place this bird among the Goshawks as an aberrant species of the genus *Aster*, not wishing to multiply, without strong necessity, the already numerous genera which have recently been proposed in this family, many of which seem to repose upon a very slender foundation. We shall first submit it to a rigorous comparison with the genuine sparrow-hawks, and then describe its plumage.

This species, which appears by no means uncommon in some parts of Western Africa, is nearly as large as a pigeon, and consequently much superior to our European sparrow-hawk. Its form also is more heavy,—an appearance occasioned by its thicker body, stouter and shorter feet, and larger sized head. Its general aspect, however, no less than its short wings and similarly formed bill, gives

BLACK CHINNED GOSSHAWK

the impression that it is closely allied to those more slender species which are represented by our own sparrow-hawk, and those which we have here described. From all these, however, the bird before us differs, in having the second quill so very long that it is only half an inch shorter than the third, this latter and the fourth being the longest of all. This prolongation of the wing clearly indicates a much more rapid and powerful flight than is enjoyed by our species, whose *third* quill-feather has the proportions of the *second* in this species, and where the fourth is even shorter than the fifth. In the feet, the two birds essentially differ. Although so different in size, the tarsus of our British hawk is just as long as that we are now describing, and yet the tarsus of *this* is nearly three times as thick as that of the sparrow-hawk; this great accession of strength and of muscular power in the foot plainly shews that the Senegal bird feeds upon much larger and more noble game than our English one: while the middle claw, instead of being very long, is of the same length as in the true Falcons. The surface of the feet, or rather the scales by which they are covered, are very different. In this the series placed in front of the tarsus are by no means smooth, since their sutures are distinct and prominent; they are transverse, and composed of about nine pieces, while those on the sides and back are small, numerous, and hexagonal: not, like the sparrow-hawk, in smooth and nearly entire pieces.

We will now compare our bird with the white

Goshawk of Australia (*Aster albus*), with which, in its general form and proportions, it much more accords than with the typical sparrow-hawks. The wings of our present bird are a trifle longer and more pointed. The general structure of the feet are the same in both; the inner toe being a trifle longer than the hinder, although their claws are of the same size: the chief, and we may add the only important difference between the two birds is in the scales of their tarsi; those of *Aster albus* are large, smooth, broad, and transverse, both before and behind, while the posterior and lateral scales of *Aster monogrammicus* are small, reticulate, and hexagonal. Although it is highly important to notice this difference, we do not look upon it in any other light than as indicating an aberrant species, opening the passage to eagle-hawks of the restricted genus *Haliœetus*.

The general colouring of the plumage is very elegant. A light and uniform grey spreads over all the upper parts, and forms a broad band across the breast and lower part of the neck. The chin is of a pure white, relieved down the middle by a stripe of deep black, composed of five or six feathers entirely of that colour; the orbits, which are feathered, are lighter than the cheeks and sides of the head, the rump has a deep black bar, which contrasts agreeably with the pure white of the upper tail-covers. The lesser quills have white terminal margins, and are crossed by about eight dusky-blackish bars, hardly, if at all, perceptible when the

wing is closed; the greater quills, externally, are uniform black, but on their inner surface they appear white, crossed with black pointed bars, of which five or six are on the first quill; inner wing-covers, pure white. Tail slightly rounded and deep black, with a white bar about an inch and a half from the tip, and another close to the base. The under plumage from the breast to the belly, including the thighs, is most elegantly banded with slender grey-brown lines upon a dusky-white ground; the space between each band is nearly double the width of the band itself, and there are about ten of these bands on each feather. The base and cere of the bill is rich orange-red, the rest bluish-black; the legs bright yellow, and the claws black; the vent and under tail-covers dirty-white, and unspotted.

We have seen several specimens perfectly alike in plumage, but differing materially in size; the smaller ones being no doubt of the male sex. The ordinary dimensions of the female are as follows:— Total length about 13½ inches; bill, from the gape, 1; wings, 9; tail (beyond), 3; from the base, 6¼; tarsus, $2\frac{1}{10}$; middle toe (without the claw), $1\frac{1}{10}$.

SENEGAL SPARROW-HAWK.

Accipiter brachydactylus, SWAINS.*

Male, above, slate colour; beneath, whitish, transversely banded on the breast and body with ferruginous bands; throat, thighs, and belly—whitish, immaculate; chin with a central dusky stripe; wings, beneath, pale fawn colour, and unspotted.

Female, above, cinereous-brown; bands, beneath, more numerous and broader; quills, beneath, marked with transverse black bands.

WE fortunately possess both sexes of this pretty little Hawk, which has all the delicacy of shape and proportions belonging to our British species; yet it is still smaller, the male measuring only eleven inches and a half. There is nothing materially different in the structure of these two species, excepting that this has not the remarkable elongation of the first joint of the middle toe, so conspicuous in ours; so that the inner toe of *this* species (without the claw) is considerably longer than the first joint of the next,—whereas in ours both are

* There is a species from India, figured in the *Pl. Col.*, which is much like this, but nothing is said of the stripe on the chin, so conspicuous on all the specimens we have seen of our present bird.

equal*. The inner and hind toes are also nearly equal in length, while in ours the hinder toe is much the shortest. The wings, again, are not so much rounded,—as the third quill is nearly the same length as the fourth and fifth, and consequently much longer than in *A. fringillarius;* in other respects, as regards the bill, tarsi, and scales, the two birds quite agree.

The delicate slate colour on the upper plumage of the male is only a shade lighter than that of the common sparrow-hawk; it becomes much paler on the ears and sides of the neck, and leaves the chin and half of the throat entirely white; this white is divided down the middle by a pale but very distinct dusky stripe, which extends for about an inch from the chin. From the lower part of the neck, the ground colour of the plumage becomes of a delicate fawn colour, which changes on the belly, vent, and thighs, to white; on these latter parts there are no markings, but the breast and body are thickly barred with transverse ferruginous or fawn lines, in the same manner as those on our sparrow-hawk, but closer together and not quite so broad. The quills are blackish, without any external spots, but having the inner web for about half its length fawn white, and banded with black; these bands, however, can scarcely be seen on the under surface, and then only when the wing is opened. The inner wing-covers are marked with a few bars, wider apart than those

* This very singular formation does not appear to have been noticed by any writer.

of the body. The ground colour of the tail is grey above and dull white beneath; the middle feathers are not marked, but the lateral have seven black bars, that at the tip being hardly broader than the others; the outer feather has eleven, which are paler and narrower. The cere and feet are fine yellow. The tail is rounded, and the wings reach to half its length; the second quill is a little longer than the sixth,—the third, fourth, and fifth quills are nearly of the same length; the fourth barely exceeding the two others.

Total length, 11½ inches; bill, from the gape, $\frac{7}{10}$; wings, 7; tails (beyond the wings), 3; from the base, 6; tarsus, $1\frac{7}{10}$.

The female differs materially in size and somewhat in colour from the male. The upper parts are greyish-brown; the ears and sides of the head are striped, but the space between the bill and eye is entirely white; the chin is also white, and has the central stripe darker and more lengthened; the transverse bands on the breast ascend higher up on the neck, and they are broader and more close together; there are five of these bands upon each of the breast-feathers. The two middle tail-feathers are without any bars; the three next (on each side) have six, broad and black; while the two outermost have nine, paler and narrower, and which do not extend across to the outer web; the band nearest the tips is broadest, and the terminal margin in both sexes is white. The black bands upon the inner shaft of the quills, which in the male are

scarcely visible on their under surface, are here very strong; there are four on the first quill and seven on the next, exclusive of the black space at the end of each. The inner wing-covers, on the other hand, have about three oval transverse black spots in the middle of each feather, without any of the narrow fawn bands seen in the male.

The dimensions of the female are as follows: — Total length about 12½ inches; bill, from the gape, $\frac{8}{10}$; wings, 7¾; tail, beyond, $3\frac{6}{10}$; from the base, 6½; tarsus, 2.

LITTLE RED-BILLED HAWK.

Accipiter erythrorhyncus, SWAINS.

Cinereous, paler on the chin, throat, and breast; body, thighs, and inner wing-covers, white, with numerous grey bars; tail with four blackish bands; the base and covers pure white; feet and base of the bill, red.

Le Gabar, *Le Vaill., Ois. d'Afrique*, i. Pl. 33. p. 136.

THE celebrated Le Vaillant first discovered this beautiful Hawk during his travels in Southern Africa, and it was subsequently introduced into his great work on the birds of that region. Ornithological painting was then, however, but in its infancy; and we must therefore not be surprised that the figure which accompanies his description is very poor. Le Vaillant mentions several districts in the interior where this bird was not uncommon; but remarks, that he never observed it within the limits

of the Cape colony. He once found its nest, which was built in the fork of a high tree; it contained three young birds ready for flight; there was also an addled egg much soiled, which, upon being washed, was found to be entirely white. The range of this species is therefore established between Southern and Western Africa; and it is the only one of those Falcons, found by Le Vaillant in the former districts, which we have yet received from the western coast.

In its general structure it perfectly resembles the goshawk last described, but the bill is considerably larger; and although the tarsi of both are of the same length, the middle toe of this, particularly the first joint, is much longer, and therefore more like that of the common sparrow-hawk. The wings are very short, reaching only, as Le Vaillant well observes, as far as the under tail-covers; the second and sixth quills are of equal length; and the third, fourth, and fifth, as in the last species, are the longest and are nearly equal. In size, our specimen is certainly smaller than the common sparrow-hawk, although Le Vaillant observes that they are of the same size.

The general colour of the upper plumage is a uniform greyish-brown, except a broad white bar at the base of the tail, and which crosses the last range of the covers; this is bordered towards the rump by a black bar, which then mingles with the brown of the rump. The under parts, from the chin to a little beyond the breast, are of a light and

uniform grey; from whence the ground colour of the body and thighs becomes white, elegantly crossed by narrow and well defined bands of pure grey, broadest on the flanks and body, and narrow on the thighs and belly; the vent and under tail-covers only are dingy white. The tips of all the quills have a conspicuous white margin. The inner webs of the quills, on their upper surface, are nearly of the same dark brown as the outer webs,—a very unusual circumstance in this family,—and they are crossed by distinct blackish bands, which do not run into each other; of these there are seven on the first quill and nine on the next; the colour of the quills beneath is light brown, becoming nearly white at their base, and the inner wing-covers are banded precisely like the body. The ground colour of the tail is light brown, which changes almost to pure white on the outermost feathers, all of which are crossed by four very broad bars (including that near the tip), which are more distinctly seen on the under than on the upper surface, where the ground colour of all appears to be dingy white. The cere, with the basal half of the bill, together with the legs, are of a bright red; the other half of the bill and the claws are bluish-black. The outer tail-feather only, on each side, is shorter than the others.

The measurement of the only specimen sent is as follows:—Total length about 12 inches; bill, from the gape, $\frac{7}{10}$; wings, $6\frac{7}{10}$; tail (beyond), $3\frac{1}{4}$; from the base, $5\frac{1}{2}$; tarsus, $1\frac{8}{10}$; middle toe, without the claw, $1\frac{2}{10}$.

THE STRIGIDÆ, OR THE OWLS.

THE usual haunts of this family are in wooded and sheltered districts, where they can seek a retreat from the glare of the sun and the observation of the smaller diurnal birds, who are well known to torment them at a time when they can but ill defend themselves; whether it is that this part of Africa possesses few of these nocturnal birds, or from any other cause, we have as yet received only three species of the family from the districts which have supplied us with so many others inhabiting the land. Two of these belong to the horned group or *Otus*, the other is a representative of the little passerine owls of America.

WHITE-FACED SCOPS OWL.

Scops leucotis, SWAINS.

Face, white; ears, margined behind with a black band; egrets, light brown, with delicate transverse lines, and tipt externally with deep black: under plumage with a black line down the shaft of each feather.

Strix leucotis, *Temm. Pl. Col.* pl. 16.

WITHOUT any gay or diversified tints, the owl before us is nevertheless an unusually elegant bird, so far at least as regards its plumage; for in this family the form of the body in all its parts is thick and

heavy; these disadvantages of shape are further increased by the habits which they all possess of puffing out their feathers when perched, so that nothing is seen of the legs but part of the toes and claws.

Like the rest of the horned Owls, which are now all comprised in the sub-family *Asioninæ*, the one before us has no operculum to its otherwise well developed ears. The facial disk, however, is so far perfect, that it is only interrupted on the chin. The aperture of the ears is equal to the size of the eyes, while the tail is short and almost even. These being likewise the essential characters of the *Scops Europæus*, we place it in the same genus, rather as an aberrant than as a typical species, on account of the more defined shape of the disk round the eye and the longer and stiffer feathers which compose it. In the length, proportion, and disposition of the wings, quills, and feet, the two birds perfectly agree.

The size of the body is about that of a domestic pigeon. The ground colour of the upper plumage is entirely light grey-brown, without any of those rufous or ferruginous spots so usual among the species of this family, and which renders their description so very difficult. Upon this grey are darker variegations, each feather having a blackish stripe down the middle, the sides of the stripe being undulated, so as to give the appearance of short transverse knots; and these are most observable on the wing-covers. There is a broad and conspicuous white outer margin on the scapulars, the outer web of each feather being white, tipt with black. The

primary quills are crossed by ten dark and very regular transverse bars, reckoning those only which are not hid by the spurious and lesser quills; and by the greater covers, on the lesser quills, in the same way may be counted seven. There are also ten similar bars on the middle tail-feathers beyond the covers. The outer half of the feathers which form the egrets, and of those between them, are deep black, with about five rows of little round white spots in pairs, one on each side of the shaft; the facial disk is entirely white, but there is a broad black spot on each side, just behind the ears. The chin and all the under parts are of a delicate light grey, each feather having a deep black central stripe, which is crossed by many others, close and undulated, of a darker grey than the ground colour. The inner wing-covers are white, with a simple black stripe down the middle. The feathers on the legs are the same, but the shape is hardly perceptible. The bill and toes seem to be light or greenish yellow. There is a black spot on the *inner* wing-covers, close to the base of the first quill.

AFRICAN SCOPS OWL.

Scops Senegalensis, SWAINS.

Variegated with grey, ferruginous, and black; ears, grey, without any marginal band; marginal base of the shoulders, whitish. Second quill-feather shorter than the fifth.

So many authors of good repute* have recorded that the little Horned Owl of Europe is also a native of Africa, that in the absence of positive proof to the contrary, we were bound to believe the fact. Every fresh examination, however, of these species, which on equally good testimony are asserted to inhabit widely different regions, diminishes the number of these supposed cosmopolites, and throws increased doubt upon the remainder. It is impossible, of course, to know whether the bird we shall now describe is that which has been mistaken for the European scops; but if so, we hesitate not to pronounce it a decidedly different species. The specimen from the south of France is now before us, together with that we here designated, for the first time, under the name of *S. Senegalensis*. It may at once be known from the former, by being smaller, by the absence of the black marginal or semicircular line behind the ear, and by the whitish colour of the shoulders. The two first might be

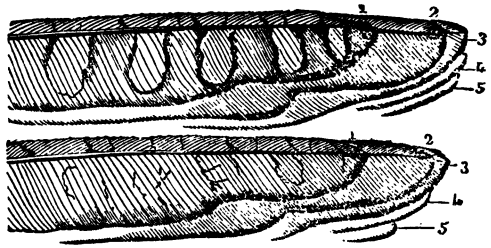
* Le Vaillant, Temminck, &c.

attributable to climate, the second to a difference of sex, but the third distinction, more especially when coupled with the others, is altogether decisive.

It is almost impossible to give a correct idea, by words, of those intricate mixtures of colours seen in the plumage of the owls and nightjars. On such occasions it appears preferable to single out two or three parts for minute description, and not attempt a laboured account of the remainder. Without, therefore, occupying more space than is necessary, we shall merely observe, that the general cast of the plumage of these two species are so much alike, that we can feel no surprise at their having been mistaken for the same. Yet, even in some of these markings, when closely examined, there is a tangible difference. The inner webs of the greater quills, for instance, on the *S. Senegalensis*, are light-brown, passing into buff, and marked across with about six well defined blackish bars, placed in an oblique direction, and extending entirely across the web; whereas, in *S. Europœus*, these bars are not entirely more obscure, but they are upon a dull blackish ground, so as to become partly undefined; the spots on the outer web of the quills are larger, whiter, and fewer. On the first quill there are nine in *S. Europœus*, and but six in *S. Senegalensis*. In *S. Europœus*, the outer half of the greater wing-covers beneath is entirely black; but in *Senegalensis*, they are entirely whitish, with two slender black transverse bands. The axillæ of the shoulders in this are cream colour, tinged with ferruginous, pre-

cisely similar, in fact, to the whitish scapular line so common among the owls; but in the European species, the axillæ, like the lesser wing-covers, are deep and uniform rufous-brown.

Finally, there is a difference in point of structure which must not be passed over. The wings are shorter than in the European, which has the second quill equal to the fourth; but in this, the second quill is not even so long as the fifth. Hence ensues a great difference in all the remainder, for in this the third and fourth are equal and longest, whereas in the *S. Europœus* the third exceeds all the others. The annexed cut will explain these differences at a glance, and will show how much more vigorous must be the flight of the European scops than that of the Senegal species.



The colouring and markings of the species of this group are remarkably alike; there are two from Java and one from Brazil, which in this respect are as similar to *S. Europœus* as is the present bird.

AFRICAN PASSERINE OWL.

Scotophilus perlatus, SWAINS.

Above, rufous brown; head above, thickly covered with round white dots; tail, brownish, with seven pair of white spots, margined with black.

La Chevechette perlée, *Le Vaill., Ois. d'Afrique*, vi. Pl. 284. —Strix perlata, *Vieil. Ency. Meth.* 1290.

THIS is certainly the most elegant of all the Passerine Owls, and it is no less interesting, as being the only one yet found in Africa representing those of the opposite continent of tropical America.

In the structure of all these small owls there is no essential difference, although inhabiting different continents. They differ materially from all those of the lesser European owls, as *Tengmalmi*, &c., with which they have been hitherto arranged, in having little or no facial disk; in the smallness of their ears, which are not much larger than in ordinary birds; in the shortness of their wings, and in the length of their nearly even tail. They are excluded from the European province, and all the species we have seen, save this, are peculiar to tropical America. In all these, the wings hardly exceed the length of the tail; the third, fourth, and

fifth quills are longest, and nearly of equal length, although the last is sometimes rather shorter, as in this species, than the two preceding; and these three are the only ones with a sinuated outer web, excepting the second, the sudden broadness of which is only at its very base.

The total length of the specimen before us may be taken at eight inches, supposing the head is straightened. The upper plumage is rufous brown, or ferruginous, brightest on the head, and especially between the shoulders. The whole upper part of the head is thickly covered with round white dots, edged with black; and a few of these spots, but larger, are scattered on the back, rump, and shoulder wing-covers; the lesser covers have a short row of much larger white spots, and there is another row on the tips of the greater covers, these latter having also a ferruginous spot in the middle; the spurious wings are without spots. The quills are crossed by six distinct well-defined blackish bars, which above are nearly of the same breadth as the rufous intervals which separate them, but they are much narrower on their under surface, and leave the base of the inner webs entirely ferruginous; this last colour also, but much darker, spreads over the inner wing-covers, the tips of the greater ones only being marked with a terminal tear-shaped spot. The white scapular band is margined above by a row of large white spots, ringed with black. Tail rather lengthened, nearly even, and blackish, each feather having seven pair of transverse white spots, the outer ones

SENEGAL WHITE BACKED CROW

THE ORDER OF PERCHERS, OR INSESSORES.

THE remaining portion of this Volume will contain the major part of the different families of the Perchers belonging to Western Africa, commencing with the conic-billed tribe *(Conirostres)*, and proceeding to the tooth-billed groups forming the tribe of *Dentirostres*.

WHITE-BACKED CROW.

Corvus leuconotus, SWAINS.

PLATE V.

Glossy purplish black; interscapular collar, and middle of the body, white.

THE old ornithologists considered that nearly all those Crows which were about the size of that of Britain were mere varieties of that bird; and so little were they regarded, that they were not deemed to be worth separate descriptions. This error, however, has long been dissipated, and it is now found that a considerable number of distinct races, in different parts of the world, have thus been passed

over. Whenever a wide difference of geographic range is accompanied by others of colour, we may generally assume that species having some similarity are nevertheless distinct.

These observations are applicable to the present bird. It has much resemblance to that figured by Le Vaillant under the name of *Le Corneille a scapulaire blanc (Ois. d'Af.* ii. Pl. 53.), from the southern extremity of this continent; but if it were the same, we can hardly suppose he would have represented the bird as having the black extending no further than the chin, when in this it occupies the whole of the neck and breast. Until, therefore, we have further evidence upon this point, we venture to consider the Senegal bird as distinct. The black part of the plumage is very glossy; and the feathers of the head and throat are pointed. The wings are very long, and reach to the end of the tail; this latter is rounded, having the feathers very broad and mucronate.

The form is strictly typical.—Total length, about 18 inches; bill, from the gape, $2\frac{2}{10}$; wings, $13\frac{1}{2}$; tail, 7; tarsus, 2.

SENEGAL PIAPEC.

Ptilostomus Senegalensis, SWAINS.

Glossy black, with transverse linear shades on the tertials; quills and tail light brown, the latter with the feathers lanceolate.

Corvus Senegalensis, *Auct.*—Le Pie du Senegal, *Pl. Enl.* 538.
—Le Piapiac, *Ois. d'Af.* 54.

IT appears that this singular bird supplies the place of our magpie in the more southern latitudes of Africa; and yet, although its size and general shape has some resemblance to that bird, there is no real affinity between them. Our magpie, in fact, is only a sub-genus of *Corvus*, as is shown by the formation of its bill and nostrils, while this has all the characters belonging to the *Glaucopina* or wattle-birds. According to the analysis we have made of this subfamily, *Ptilostomus* is the rasorial genus of the circle, being immediately followed by *Crypsirina*, which, with the more typical species*, conducts us at once to the genus *Glaucopis*. It is really extraordinary that all the modern ornithologists, who have written upon these birds, should have overlooked one of the most important parts of their structure: for in none

* *Rufa leucoptera, temnura, leucogastra, sinensis vagabunda*, and other species placed in the supposed genus *Dendrocitta*. —*Zool. Tr.* i. 87.

of their generic characters is the proportionate length of the lateral toes once alluded to; it is the inequality of these toes which indicates that such birds are arboreal, while those, on the contrary, which have these toes *equal*, and the middle one lengthened, are of ambulating habits; or at least that they frequent the ground more than trees. *Crypsirina*, in this respect, is entirely arboreal, the lateral toes being unequal, and the middle ones short; while in *Ptilostomus* the tarsi are long and robust, the lateral toes *equal*, and the middle one fully lengthened. In these characters it agrees with all the sub-genera of *Corvus*, wherein we include the true magpies; but then the whole structure of the bill and nostrils, in our views of the family, decidedly places the present genus, as well as *Crypsirina*, in a totally different division of it. The only genus of this sub-family (*Glaucopinæ*) which we have not yet seen, is that which should follow *Ptilostomus* on the other side of the circle, and constitute the tenuirostral type.

From the circumstance of Le Vaillant having found this species to be migratory in Southern Africa (where it is seen either singly or in small flocks), there can be no doubt that it quits Senegal at certain seasons, along with the grakles herein described, and returns to Western Africa to breed. We infer this latter circumstance from having seen a young specimen from Senegal, before it had quite gained its full wing-feathers; it was much smaller, and the bill was red or flesh-coloured, tipt only with black. We were

strongly tempted, at first, to believe this was a distinct species; but after a most careful investigation, we have concluded it to be the young, or immature state of the species now described.

The size is smaller, and the general form more gracile, than in the European magpie: the whole plumage of the body, both above and below, is of a deep sooty black, the feathers very smooth and silky, and with a soft gloss upon them. On the tertials, and some of the secondaries, are close, transverse bands of darkly shaded lines, similar to what are seen on the tail-feathers of *Lamprotornis longicanda* and some other birds. The primary quills and tail are of a light sepia brown, the former being almost white on their under surface, when held in some directions of light. The tail-feathers, as indicating the type which the genus represents, are much narrowed towards their tips, and the shafts are particularly strong; the sharpness and curvature of its claws shows that the bird, although possessed of an ambulating foot, is yet more accustomed to perch among trees than to walk upon the ground.

Total length, $17\frac{1}{2}$; bill, gape, $1\frac{7}{10}$; wings, $6\frac{1}{2}$; tail beyond, 8; ditto, base, 11; tarsus, $1\frac{8}{10}$; middle toe and claw, $1\frac{4}{10}$; lateral ditto, 1; hinder ditto, the same.

RED-BILLED HORNBILL.

Buceros erythrorynchus, TEMMINCK.

Above varied with black and white; beneath white; bill red, simple, or without any protuberance.

Buceros erythrorynchus, *Temm. Monog.* in *Pl. Col.*—Calao à bec rouge, du Senegal, *Pl. Enl.* 260.—Le Toc, *Le Vaill., Ois. d'Af.* v. pl. 238.

THE Hornbills, in general, are very large sized birds, having the front of their enormous bills furnished with what appears to be excrescences or protuberances of different sizes and shapes, according to the species. They mostly inhabit tropical India, yet several species occur in Africa, and two or three are mentioned as natives of Senegal; the present, however, is the only one which has yet come before us from that country. This is one of the smallest of the species, and with three or four others, forms a little group, having the bill destitute of those singular appendages which are found on the more typical species. M. Temminck has bestowed so much care and attention in determining the species of this intricate genus, that we adopt his name for the present species; it was long classed by systematists as a variety of their *B. nasutus*, notwithstanding the authority of Le Vaillant, who long ago pointed out the difference between them.

Total length 17½ inches, yet the body of the bird is not larger than that of a magpie; the bill, which is entirely red, is much curved from the base; the culmen is sharply carinated, and the margins of both mandibles destitute of serratures. The upper plumage is variegated with brownish-black and white, something in the following manner:—The sides of the head and neck are white, a broad black stripe being upon the top of the crown, which disappears a little below the nape; the back and scapulars are blackish brown, darkest on the rump, and without any other white mark than a central stripe, which extends half way down the back; the wing-covers are white, striped with black; the primaries black, with a band of white spots on the outer edge of five of the longest: some of the secondaries are entirely black; three of these have a white line at their edge, and the three next are wholly white; the tertials are blackish brown, and unspotted; the tail is long and rounded; the four middle feathers entirely black; the rest broadly tipt with white, but the outermost is white with only a small black spot on the outer web; the ears are grey, and the entire under plumage pure white; the feet, according to Le Vaillant, are orange brown. Our specimen may possibly be a young bird, as Le Vaillant says that such are without dentations to the bill; lateral toes unequal, hinder very short.

Total length, 17½ inches; bill, in a straight line from the gape, $2\frac{8}{10}$; wings, $6\frac{3}{4}$; tail beyond, $5\frac{3}{4}$; base, 8; tarsus, $1\frac{1}{10}$.

PURPLE-HEADED OR SCALY GRAKLE.

Lamprotornis ptilonorhynchus, SWAINS.

Above, glossy metallic green; head, tail, and plumage beneath, simple blue; frontal feathers advancing and compressed forwards on the bill; shoulder and tail-covers scale-like, and greenish blue.

Le couigniop, *Le Vaill., Ois. d'Afrique*, ii. Pl. 90, p. 163.—Turdus nitens? *Auctorum.*

THERE exists in the hot parts of Africa a small family of birds, having the size and shape of thrushes and the habits of starlings, but whose plumage, totally unlike any others, is of the richest metallic green and purple which it is possible to conceive. M. Le Vaillant has given us an account of those species inhabiting the interior of Southern Africa, and we can now add two others, apparently new, from the Western region. From the general similarity in the changeable plumage of these birds, and from our best systematic writers having overlooked their true distinctions, great confusion exists among the species in their catalogues. Some of these errors we hope to clear up, the determining those which will be now described.

The species now under consideration is one of the most splendid of these Grakles. Immense flocks of them arrive at certain periods on the lower lands

of the great Namaqua country; but they stay only a short time, and finally return to the warmer and more fruitful plains of Senegal, where, as Le Vaillant with much reason conjectures, they probably breed.

It is clear that this, in fact, is the *Couigniop* of the *Ois. d'Afrique;* but it is very questionable whether it is the *Merula viridis Angolensis* of Brisson, from which Linnæus made his *Turdus nitens*. Brisson, who was always remarkably exact, and whose descriptions moreover are original, says nothing of the peculiar frontal feathers, or of the black spots on the wings. In the short notice given by Dr. Leach of his *Turdus splendens*, he is equally silent on the first of these characters, but lays stress upon the second, that is, the black wing-spots; not aware that no less than four species of these shining Grakles are thus marked. As it is quite impossible to determine any thing from such descriptions, we must leave them as they stand, contenting ourselves with pointing out those characters by which the species before us is truly distinguished, and which are condensed in the foregoing specific character.

The size is that of the missel thrush, and the length almost ten inches. The whole plumage is rich and glossy; varying somewhat in its shades, but still retaining the following decisive colours. The whole of the head, neck, breast, and under parts, from the chin to the tail-covers, are of a decided deep blue, tinged with purple or lake, particularly on the head, thighs, and under tail-covers, but without any green

gloss. The blue of the head softens off on the nape, and more on the neck, to a rich yellowish metallic green, which spreads over the whole of the back of the wings; on the rump, this green becomes strongly tinged with blue, which finally has a purple tinge. The shoulder-covers are green-blue, precisely similar to the back of the neck and the rump; this colour is defined at its outer margin, and does not blend into the green of the rest of the wings; the feathers also, like those of the tail-covers, are scale-like, with well-defined margins. The tail is short, quite even, and coloured like the head, the lilac reflections being strongest on the middle pair of feathers; there is a row of black velvety dots at the tips of the lesser covers, one on each feather, and the same on the greater covers; these spots, in certain lights, seem encircled with a narrow blue ring; under wing-covers, purple.

In regard to structure, the frontal feathers of this most splendid bird differ from all others of its genus we have hitherto seen; they are very thickset and short, and fold over, as it were, the base of the bill, like those of the genus *Ptilonorynchus*. The wings reach to within three-quarters of an inch of the tail, and this latter is quite even.

Total length, about 10 inches; bill, from the gape, $1\frac{5}{10}$; ditto, from the front, $\frac{7}{10}$; wings, 6; tail, beyond, $\frac{8}{10}$; ditto, from the base, $2\frac{1}{2}$; tarsus, $1\frac{4}{10}$; hind toe and claw, nearly 1.

GOLDEN WARED GRAKLE

GOLDEN-EARED GRAKLE.

Lamprotornis chrysonotis, SWAINS.

PLATE VI.

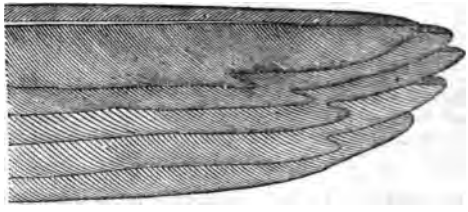
Above, glossy green; beneath, purple; middle of the belly and spot on the ear, golden; lesser quills and tail with a broad velvet-like black band.

No description or delineation can give an adequate idea of the splendid metallic richness of the varied plumage of this magnificent and very rare species, which moreover appears to be entirely new to science. Two specimens came over from Western Africa, the first of which was secured for the use of this work. Our figure will in some degree assist us in the following description.

The size is as nearly as possible equal to that of *Lamprotornis ptilonorynchus*, but as the tail, which extends three inches beyond the wings, is much longer, the bird appears larger: the bill is rather smaller, and the frontal feathers are not more advanced than in the generality of the other species. The ground colour of the upper parts, from the front to the tail-covers, including the wings, is rich metallic yellowish-green, similar to *L. ptilonorynchus;* but on the lower part of the back, and on the

shoulder-covers, there is a strong tinge of blue, glossed with purple. The shoulder-covers, however, are not scale-like, and their colour blends into the green of the wings. At the top of each of the lesser and greater covers is a large spot of deep velvet-black, which thus forms two bands. Across the middle of the lesser and tertial quills is a broad uninterrupted bar of the same deep black, dividing these quills, as it were, into two parts, that nearest the base being entirely green, while the other is tinged with rich purple: the greater quills are without any band. The base of the tail, in like manner, is crossed for about two-thirds its breadth with a similar band, which is glossed with purple on the lateral feathers, leaving the terminal portion green. The tail-covers are unusually long, extending on the tail more than one inch and a quarter beyond the tip of the wings, another character which distinguishes it from its congeners. Between the bill and the eye is a stripe of velvet black. The feathers on the ears and sides of the head are very small and scale-like, and of a rich purple, but they terminate in a shining spot of a golden copper colour. The under plumage is very different from the upper, for it has no green reflections: the prevalent hue is of the darkest and most beautiful purple-lilac from the chin to the vent, except in the middle of the body, which is strongly glossed, in all lights, with yellowish copper; not so bright, however, as the spot on the ears: the under tail-covers alone are green: the tail is rounded. Independent

of the above distinctions, there is a remarkable peculiarity in the four longest quills of this bird, each of which, near the tip, has a projecting tooth-shaped emargination on the inner web, as seen in the annexed cut.



Length of bill, from the gape, $1\frac{2}{10}$; wings, $5\frac{1}{2}$; tail beyond, 3; ditto from the base, $4\frac{3}{4}$; tarsus, 1.

BLUE-EARED GRAKLE.

Lamprotornis cyanotis, SWAINS.

Metallic sea-green; ears and sides of the neck, blue; belly and base of the tail-feathers, violet-purple; lesser and greater wing-covers with a black spot on each; tail short, even.

ALTHOUGH less brilliant in its plumage than either of the two preceding, this is nevertheless a very splendid species, readily distinguished from those just described by having the under plumage nearly of the same colour as the upper, and in being much smaller in size. If we may hazard a conjecture where any thing like proof cannot be adduced, we should say that this is more akin to the *Merula viridis Angolinus* of Brisson than any other we have yet seen; because it is almost entirely green, and the sizes are nearly the same; yet there are still many discrepancies, among the most material of which is the spots on the wings, to which Brisson makes no allusion.

When held from the light, the spectator being between, the upper plumage is entirely shining green, which only assumes a blue tinge on the rump, upper tail-covers, and shoulder-covers. The same green hue extends from the chin to the middle of

the body, where it gradually changes to a brilliant purple blue, glossed with lake or flame colour. The ear-feathers are the same, and their blue colour tinges the sides of the neck. The under wing-covers and the tail, particularly the base, is of the same rich purple as the belly; the lesser and greater wing-covers have each a black spot, which in some lights seems to have a bright blue one in the middle; bill and feet black. The spots on the wing-covers are not seen in immature specimens. The wings reach to half the length of the tail, which is short and quite even. We have been told this species has been named *chalybeus* in some continental work, but we have no means of ascertaining the point; and the name, being alike applicable to the whole genus, is peculiarly objectionable.

LONG-TAILED GRAKLE.

Lamprotornis longicanda, SWAINS.

PLATE VII.

Metallic green head, glossed with violet-brown; tail very long, graduated, glossed with purple, and banded with numerous dark lines.

Le Vert-doré, *Le Vaill., Ois. d'Afrique*, ii. Pl. 87, p. 146. *Pl. Enl.* 220.—Merula longicanda, *Brisson Orn.* ii. p. 313. —Turdus æneus, *Gmelin, Auctorum.*

IN a group of birds so difficult to determine as the present, it becomes more particularly desirable that the name of each should not only be appropriate, but characteristic of that particular quality or circumstance which distinguishes each species. *All* are *splendid, shining*, and *coppery;* and, therefore, such names as *splendens, nitens, æneus, chalybeus*, &c. being applicable to all, become, in fact, of no use as specific distinctions. With all our desire to preserve standard names, we really think it will be advantageous to science that future ornithologists, who may have the power of determining what the two first of these species really are, should impose upon them more appropriate names than those they now bear in our systems. In regard to the third, the *Turdus æneus* of Linnæus, the prior denomination given to it so justly by Brisson, who was its

LONG TAILED GRAKLE

first describer, supercedes any apology for abandoning a name which has neither priority nor peculiar fitness to recommend it.

This is a most striking and splendid bird, not so much in the variety of colours on the body plumage, as for its long fan-shaped tail, a character which prevents it from being confounded with any of those here described, or mentioned by other writers. Like some others of its congeners, it seems to make annual migrations from Western Africa to those regions lying towards the Cape of Good Hope.

The form is decidedly rasorial, not only in the tail, but in the wings and legs. The former is rounded, having the first quill half as long as the second, and the third shorter than the fourth, while the tarsus is longer in proportion than in any of the birds already described. The tail is considerably graduated; there is the difference of an inch, more or less, between the length of the three outer feathers, while the middle pair exceeds the others by more than three inches and a half.

The colour, with the exception of the head, which is brown, glossed with yellowish copper colour, is shining blueish-green, which becomes purple on the lower part of the back and rump, and also on the body, belly, and vent beneath. There is a large black velvet spot on the greater and lesser wing-covers; these, however, are not seen in the young bird, which has also the head more violet than coppery. The most splendid hues are upon the tail; the ground colour being rich purple, blue

glossed with lilac and purple, and reflecting numerous close transverse dark bars, which are onlv seen when the tail is held to the light. The size of the body is not much bigger than that of *L. ptilonorynchus*, but the length of the tail makes the bird seem much larger.

Total length, about 20 inches; bill, from the gape, $1\frac{1}{4}$; wings, 8; tail beyond, $9\frac{1}{2}$; from the base, 4; tarsus, $1\frac{6}{10}$; hind toe and claw, 1.

From the peculiar flatness of the feathers of the tail, we suspect that in the live bird it assumes a boat-shaped appearance. We do not, however, for the present, venture to give this type a distinct subgeneric name

CHESTNUT-BODIED GRAKLE.

Lamprotornis rufiventris, RÜPPELL.

Head, neck, breast, and plumage (above), metallic-green; body (beneath), thighs, and under tail-covers, rufous; greater quills, fulvous-white on their inner web.

A SPECIMEN of this Grakle has long been in our museum, but we were not aware of its being a native of Western Africa, no less than of Abyssinia, until assured that such was the fact by Dr. Rüppell. On this authority we shall insert it in our present Work, particularly since it seems to have been hitherto overlooked by systematic writers. Upon its natural habits we can say nothing.

In its general size, the Chestnut-bodied Grakle is rather smaller than *L. cyanotis*, but the wings are very much shorter in proportion. The upper plumage, although glossed with coppery-green, is yet so destitute of richness that it seems, in some lights, to be more brown than otherwise, particularly on the head and ears, where there is only a slight purplish gloss; there are no black spots on the wing-covers, but upon these, the tertials and the tail, are dark transverse reflections resembling stripes. The wings are short, and do not reach further than the upper tail-covers. The under parts, from the chin to the

WHITE-BODIED GRACKLE

and variability of the scale-like feathers of the body, renders it quite a gem among birds. The colour of these feathers are metallic, and all the same; but with this difference, that in some lights they appear of the richest purple, and in others of the deepest lilac, so as to appear almost red. Our modern systematists have left this bird under the old genus *Turdus*, probably from not having seen it; and no author that we are aware of has described the female, which from its great dissimilarity of plumage might well be taken for a different species. We can vouch however for the fact, that the difference is only sexual, having received both as male and female; and having seen a young male in its first plumage (which is always like the mother's), but having already assumed some of the more brilliant plumes of its manhood.

The form is altogether typical of the genus, and exactly the same as that of the preceding species, but the inner web of the quills has no indented sinuosity; the tail is very short and quite even.

The male has the whole of the head, neck, breast, back, middle tail-feathers, and the greatest part of the wings, of a rich soft satiny appearance,—of the deepest and richest blue, glossed with purple when held *from* the light, but which changes to a fire-coloured red, resembling lake, when the bird is held between the light and the spectator. This colour, upon the lesser quills and the lateral tail-feathers, only covers those parts which are exposed; the rest, and the whole of the primary quills, are black. From

the breast to the under tail-covers, the plumage is of a snowy whiteness.

The female is totally different. The upper plumage is varied, with light ferruginous on a brownish-black ground; each of the body-feathers, above, being brown with only the side margins ferruginous. The wing-covers, scapulars, and tertials have each a narrow margin all round; but there is none on the other quills or on the tail. The under plumage to the breast is rufous-white, with a narrow stripe down each feather; the breast and the remaining parts pure white, with similar stripes but larger and longer; base of the quills, beneath, pure ferruginous; under tail-covers, white; bill and legs, brown.

Total length, 6 inches; bill, from the gape, $\frac{6}{10}$; wings, $3\frac{3}{4}$; tail, beyond, $\frac{1}{4}$; from the base, $2\frac{1}{2}$; tarsus, $\frac{7}{10}$.

From the starling family we pass on to that of the

FRINGILLIDÆ, OR FINCHES,

THE most extensive of the conic billed order, and one that every observer may understand, when he looks to the sparrow, chaffinch, greenfinch, or any of those small thick-billed birds which feed on seeds and kernels. It is one of the beauties of the natural arrangement, that it keeps together large families of similar habits, size, and often of country; so that by seeing two or three, we can form a tolerably correct idea of the whole.

The first bird upon our list is no less remarkable for its rarity than for the interest which attaches to its station in this family. We shall first describe it, and then employ it to explain in a familiar manner our views on the natural arrangement of the group to which it more especially belongs; a group which, from not having been well understood, is at this moment involved in the greatest confusion. This digression will also give a practical illustration of those principles upon which, as we conceive, all the groups of nature are diversified. The bird before us is the most pre-eminent type we have yet seen of this family, and we shall therefore distinguish it as a new sub-genus, under the name of

CRIMSON NUT-CRACKER.

Pirenestes sanguineus, SWAINS.

PLATE IX.

Head, neck, breast, and upper tail-feathers, glossy crimson; body, wings, and tail, dark brown.

Loxia ostrina, *Vieillot, Ois. Chant.* Pl. 48.

IT may safely be affirmed that this extraordinary bird has the thickest and most massive bill in the feathered creation. Both mandibles, indeed, are of an enormous size; but contrary to what we find in the generality of birds, the under one is even still more powerful than the upper. What are the nuts or seeds, the breaking of which requires such an amazing strength of bill, is perfectly unknown; but they must be of a stone-like hardness. This is proved by another circumstance, which further shews that, however uncommon, this amazing developement is not in the least degree superfluous. In the two specimens we have examined, one in the Paris museum, the other in our own, the edges of the upper mandible are chipped and broken, obviously from the difficulty which the bird has experienced in breaking some nuts of unusual hardness, and which it has not been able to accomplish without

CRIMSON NUT-CRACKER

injuring the bill. The sharp tooth at the base of the upper mandible is, no doubt, highly useful in this operation, probably performing the office of a canine tooth by making a first indentation in the nut, whereby to procure a hold upon it; the injuries to the bill are also more conspicuous close to this tooth than further towards the tip.

The form of this bird constitutes its sub-generic character. The bill resembles a perfect cone, the sides of which are quite straight, and in nowise curved outwards. The upper mandible does not project at its tip beyond the under; it is quite entire, excepting a short and rather acute tooth-like process close to its base, while the commissure or line formed by the joining of the two mandibles is nearly straight; the nostrils are vertical, pierced behind the substance of the bill, but completely covered with the frontal feathers, thus very much resembling those of the toucans. The wings are rather short and much rounded; the first quill is short, narrow, and spurious, about six-tenths of an inch in length; the second is half an inch shorter than the third, and this latter is equally long with the fourth and fifth. The feet, without being robust, are large and slender; the middle toe very long, and exceeds, with its claw, the length of the tarsus; the hind-claw is as long as its toe, as in many of the scansorial birds, and only falls short of the tarsus by about the tenth of an inch. The tail is broad and much rounded.

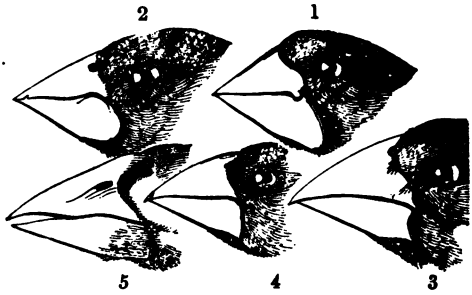
The colouring of the plumage is rich and yet simple. The feathers of the whole head, neck,

breast, upper tail-covers, and half way down the flanks, are of a bright crimson, and appear glossy, as if polished, but without any coloured reflections. The tail is of a dull red, but the inner half of the lateral feathers are black; the quills are nearly so. All the rest of the plumage is a deep uniform sepia brown. Bill, deep black; legs, brown; claws, long, slender, and but little curved.

Total length, $5\frac{3}{4}$ inches; bill from the gape, $\frac{6}{10}$; wings, $2\frac{8}{10}$; tail beyond, $1\frac{1}{2}$; from the base, $2\frac{1}{2}$; tarsus, $\frac{3}{4}$.

If, as naturalists conceive, the typical character of the finches is in the strength and conic form of the bill, then the bird before us, possessing both in the most eminent degree of perfection (fig. 1), must stand at the head of the entire family. And this is the view we have taken of its station, resulting from the analysis of that division of the finches to which it unquestionably belongs. Of all the forms in other countries we yet know of, it comes nearest to the South American hard-bills, forming the sub-genus *Coccoborus;* while, on the other hand, there can be no question, we think, of its close relationship to the sub-genus *Dertroides:* from this we pass to *Spermophago*, from which nature seems to return again to her first or most pre-eminent type, by means of the haw-finches of temperate climates *(Coccothraustes)* and the hard-bills of South America, *Coccoborus.* It is among these latter birds, indeed, that we have the nearest approach to that now before us. The

gradual developement and diminution of the strength and form of the bill in this circular group will be made intelligible by the following outlines of the bills of the sub-genera which compose the circle.



It is obvious that those bills are the strongest whose mandibles are of equal thickness and of unusual shortness; we consequently find that it is the pre-eminent distinction of the two typical genera, *Pyrenestes*, fig. 1, and *Coccoborus*, fig. 2; all the others having the bill either more lengthened, or the under mandible much weaker than the upper. But this change is nevertheless gradual. *Pyrenestes*, fig. 1, for instance, has the most conic bill of all, for it has no notch at the tip. Then comes *Dertroides*, fig. 5, putting on the appearance of a hornbill or a buceros, not only on the knobbed front, but in the situation of the nostrils; its bill is something like the last, but it is less conic and more lengthened. From this form we pass to *Spermophaga*, fig. 4, where the bill has

less of the conic form than any of those now represented; its shape, in fact, is intermediate between that of *Dertroides* and *Coccothraustes* to which it leads. *Coccothraustes*, again, fig. 3, has a remarkably strong *upper*, but comparatively a weak *under* mandible, and the commissure is regularly and gradually arched from the base. Some of the species, however, of *Coccoborus* have the under mandible rather the smallest, so that by these birds, a passage is formed from one to the other. *Coccoborus* is nevertheless very different; for in the greater part of the species the two mandibles are perfectly equal, fig. 2, and the margins, instead of being curved, are sinuated; the upper one, moreover, has a very small but obvious tooth, which none of the other genera possess. Now, to unite this genus (which is strictly confined to the warm parts of America) with that of *Pyrenestes*, there should be a species with an unusually large bill, yet furnished with a notch; such a bird would obviously unite in itself the characters of both genera, and such a bird we accordingly have in the *Loxia Angolensis* of Linnæus, erroneously supposed to inhabit Africa, but which we ourselves shot in the forests of America. We have chosen to illustrate this progression by the form of the bill only, because this organ is the most obvious to the generality of students, and will admit of more accurate delineation; but this chain of connexion is equally apparent in the variation of the wings and feet. We have thus presumptive evidence of a circular group. Let us now see whether this group

is natural; that is, whether it will bear the test of comparison with the orders of birds and the tribes of the *Insessores*. The usual mode we have always adopted for this purpose is to place the genera in a column which corresponds to those which contain the groups represented, thus:—

SUB-FAMILY COCCOTHRAUSTINÆ.

1. TYPICAL.

Pyrenestes	The most perfectly conic bills	*Conirostres.*

2. SUB-TYPICAL.

Coccoborus	Bill notched at the tip	*Dentirostres.*

3. ABERRANT.

Coccothraustes	Wings long, tail forked, feet very short	*Fissirostres.*
Spermophaga	Bill most lengthened	*Tenuirostres.*
Dertroides	Wings short, feet large, very strong, upper mandible curved above	*Scansores.*

Each of these columns are circles; because *Pyrenestes* passes into *Dertroides*, just as the tribe of *Conirostres* passes into that of *Scansores*. Thus we find that the chief distinctions of each of the tribes of the perchers turn out to be the same as those of the group of Finches before us; that is, they possess the same characters *in addition* to others which constitute them Finches. It is only upon these principles, in fact, that we can account for the glossy plumage, for instance, of the haw-finches; their very short feet,—their broad, although conic bills,—their pointed wings,—their forked tail,—and

their migratory habits; all which, as every one knows, are also the characteristics of the swallow family, and of all *Fissirostral* birds. Those, on the other hand, which represent the *Tenuirostres* have the longest bills; and those, again, which typify the gallinaceous tribe, have the strongest feet and the shortest wings. All the species of *Coccoborus*, however diversified in other respects, have a distinct notch (although small, and the tip not hooked, as in the tanagers) in the upper mandible; and this, we all know, is the great distinction which separates the *Dentirostres* from the *Conirostres*. Numerous other analogies might be here pointed out, strengthening the accuracy of the above arrangement; but it is quite needless to proceed further. The clue being now given, the experienced ornithologist will be at no loss in following it up; while the student will thus have an example he can comprehend, of that *systematic order of variation* in all animals which the discoveries of every year more and more demonstrate as the fundamental principle of the great plan of creation. We now proceed to the genus *Dertroides*, the rasorial type of the hard-bills; it contains at present but one known species, which is likewise of extreme rarity.

WHITE-BILLED NUT-CRACKER.

Dertroides albirostris, SWAINS.

Entirely black; bill, whitish; flank-feathers with a few white stripes.

Tector alecto, *Temm.*, *Pl. Col.* Pl. 446.

THIS is the largest finch hitherto discovered, being fully as long as a starling, although not so bulky in the body. The whole plumage is entirely deep lamp-black; the feathers of the body, under the wings, being partly white. The bill is whitish, particularly hard, and advancing much on the front of the head, where it is swollen and elevated. The wings are short and round, reaching only to the base of the tail; the latter being rather lengthened and much rounded. The first quill is somewhat spurious, being only half as long as the second; this, again, is nearly equal to the third, fourth, fifth, and sixth, which are the longest; in all this we find a passage between this and the next sub-family of *Ploceanæ*, or the weavers. The feet are large and strong, with the lateral and the hind toes equal; thus preserving the analogy of the genus both to the *Scansores* and *Rasores*.

Total length, 10 inches; bill, from the gape, $\frac{8}{10}$; wings, 5; tail beyond, 3; from the base, $4\frac{1}{2}$; tarsus, 1; hind-toe and claw, in a straight line, $\frac{8}{10}$.

Following this type, we place another exceedingly rare bird from Senegal, both sexes of which we shall now describe; we consider it, for the present, as the most aberrant of the hard-bills, and therefore as belonging to the *Tenuirostral* form; although other species doubtless exist, which will be found more characteristic of this particular type; it seems however, intermediate between the last form and *Coccothraustes*.

BLUE-BILLED NUT-CRACKER.

Spermophaga cyanorynchus, SWAINS.

Blackish or cinereous; throat, breast, and flanks, crimson; bill, blue tipt with orange; female, with white spots on the belly.

Loxia hæmatina, *Vieillot, Ois. Chant.* Pl. 67.—Loxia guttata, *ib.* 68.

ALTHOUGH the two birds we shall now describe under the above name have been considered different species, we strongly suspect they will turn out to be sexes of only one. Their size and proportions are precisely the same, while the very remarkable colour of the bill, exactly alike in both, still further

strengthens this belief. It is also one of the most natural characters of *Tenuirostral* types that the sexes vary; witness the whole family of humming-birds, and that of the fruit-eaters *(Ampelidæ)*, and we may therefore expect to find the same in the *Tenuirostral* genus of the hard-bills.

The form of the wings and bill differ from all in this group. The former are very short, and more rounded than in *Dertroides*. The first quill is not spurious, but formed like the second, which is only half as long again; the third quill resembles the second of *Dertroides*, that is to say, it is slightly shorter than the fourth, which is nearly as long as any of the others; the tertials are not lengthened; the end of the wings reach only to the base of the tail, which is rounded, having the feathers broad and soft. The feet are much like those of *Dertroides*, but the inner toe is *shorter* than the outer; while the nostrils are *behind* the basal edge of the bill, and hid by the frontal feathers. The bill is lengthened-conic; the culmen slightly curved, although the gonys is straight; the upper mandible is thickest, and the commissure sinuated, as in *Dertroides* and the ordinary weavers *(Ploceus)*.

The colouring is simple,—that of the bill is very peculiar in some lights; at a distance it appears almost black; when viewed more closely, however, it becomes of the darkest indigo-blue, but with reflections of a much lighter colour, nearly resembling ultramarine, the tips being rich orange. If that which we conjecture be the male sex, the upper

parts are deep and uniform black, and so also is the body and belly beneath; the chin, throat, breast, and flanks, are rich glossy scarlet. In the other bird, the parts which we have just described as black are of a dark cinereous; the crimson is not quite so bright or so full, and it tinges the front, ears, sides of the neck, and the upper tail-covers. The middle of the body is thickly spotted with small round white spots, chiefly upon a black ground; these spots are thickest on the sides, and obscure on the belly; feet in both, blackish.

Size of the chaffinch; total length about $5\frac{1}{2}$; bill, from the gape, $\frac{11}{20}$; wings, $2\frac{3}{4}$; tail beyond, $1\frac{3}{4}$; from the base, $2\frac{1}{4}$; tarsus, $\frac{9}{10}$.

RUFOUS-NECKED WEAVER.

Ploceus textor, Cuvier.

Orange-yellow, varied above with black; head, chin, and front of the throat black; nape with a chestnut band.

Le Cap-noir, *Buffon*, *Sen.* 19. p. 165.; *Pl. Enl.* 373. fig. mal. —Oriolus textor, *Aud.*—Ploceus textor, *Cuv. Reg. An.*— Ploceus textor, *Zool. Illust.* 2d series, pl. 37.

In this species the undulation of the commissure of the bill in this and all the insectivorous Weavers (for most of these birds feed upon beetles as well as seeds), seems analogous to the festoon in the bills of the hawks, and facilitates both the breaking of seeds and the crushing of hard beetles. The aberrant type of *Symplectes* has nothing of this structure, which, with the greater weakness and *compression* of the bill, indicates a different sort of food. In *Ploceus* the spurious quill is always developed, although the two next are the longest. The present species, in short, shows the typical form in every respect; the claws are broad and much curved, and the lateral toes equal. It appears common in Senegal, but we have not seen the female.

Total length about $6\frac{1}{4}$ inches; bill from the gape, $\frac{7}{10}$; wings, $3\frac{4}{10}$; tail beyond the wings, $\frac{6}{10}$; from the base, $2\frac{5}{10}$; tarsus, $\frac{9}{10}$.

ROUND-WINGED WEAVER.

Ploceus brachypterus, SWAINS.

PLATE X.

Above olive; beneath yellow; head and neck fulvous orange; eye-stripe, chin, and throat black; wings rounded, the fourth quill longest.

WE can find no figure by which this Weaver can be identified with any species yet described. It comes very near to the *Malimbus nigricollis* of Vieillot (*Ois. Chant.* pl. 45), but is entirely destitute of the black collar on the hinder part of the neck, possessed by that bird. And such is the confusion that pervades the whole of the finches, even in the best systems of the present day, that without a species is positively figured, it is utterly impossible to identify it, or even to know its modern genus.

This species, we must therefore consider not only as new, but as highly interesting, inasmuch as it is an aberrant example of the genus, uniting the characters of *Ploceus* and *Symplectes*. If we considered duly the structure of the wings, which are rounded, and the inequality of the lateral toes, we should place it with *Symplectes;* but then the strong cylindrical and thick bill, in nowise compressed, and the inflection of its margins which are also very slightly

ROUND WINGED WEAVER

sinuated, accord with *Ploceus*, and shows that the nature of its food is more in unison with the latter than with the former of these divisions. The first or spurious quill, also, is not nearly so much developed as in *Symplectes*, for it is little more than one-third the length of the second; this latter, and the third, are graduated, so that the fourth becomes the longest; the tail is slightly rounded, and the inner toe rather shorter than the outer.

We fortunately possess both the sexes. In the male the whole of the head, ears, and sides of the neck, are of a deep yellowish buff, or dull orange; the chin and front of the neck being covered by a black patch; the breast is deep yellow verging to buff; the remaining under parts paler, but of a clear yellow. In both sexes there is a black stripe through the eye, beginning at the nostrils and ending above the ears; the upper plumage, from the nape to the tail, is yellow-olive; the wings and tail being internally light brown. The female differs in having the head of the same colour as the back, the under parts entirely yellow, and the ears only tinged with buff; bill black; legs pale.

It may here be remarked that the genus *Malimbus* of Vieillot belongs to that of *Ploceus*, as it now stands; we even suspect it is the true typical form.

Total length $6\frac{1}{2}$; bill, $\frac{7}{10}$; wings, $3\frac{1}{10}$; tail beyond, $1\frac{3}{10}$; tarsus, $\frac{7}{10}$.

YELLOW-BODIED WEAVER.

*Symplectes chrysomus**, SWAINS.

Above dark brown; beneath bright yellow; chin whitish; bill and legs pale.

THERE are certain characters in this Weaver, which separates it so much from any of its congeners, that we cannot, for the present, associate it with any of the genera contained in the circle. These characters, which we shall shortly state, certainly show a great departure from those which belong more or less to the others; yet as its whole appearance is that of a *Ploceus*, we place it as the aberrant type, believing that its natural station is between *Ploceus* and *Estrelda*.

In its whole appearance, as regards the size, colour, and the stoutness of the feet, the breadth and great curvature of the claws, and the shortness and evenness of the tail,—our bird shews an unquestionable affinity to the large race of Weavers, forming the restricted genus *Ploceus*. This point being admitted, we get the double affinities of *Ploceus;* for that genus is so intimately connected with *Euplectes*, that every link in the chain of connexion is filled up, and more than one *Ploceus* evinces a tendency

* A figure of this bird has been engraved for the new series of "Illustrations of Ornithology," Plate X., under the title of *Eupodes xanthosomus*. We have received specimens from the Cape of Good Hope, and also from Sierra Leone.—W. J.

to the structure of our present subject; distinguished, nevertheless, from all others by having the spurious quill half as long as the second, which, with the third, is graduated; so that the fourth and fifth quills are longest; the bill, moreover, is considerably compressed and its commissure in no wise sinuated; lastly, the inner toe is shorter than the outer one. These characters are all of a *positive* nature, and with the above considerations, leads to the belief that this is the aberrant type of the circle of the Weavers.

The yellow-bodied Weaver is as long, though not so thick as our Hawfinch. A full dark brown spreads over all the upper plumage, including the wings, tail, sides of the head, ears, and neck; the chin is dirty white, tinged with pale yellow, and mottled with brown; from this to the under tail-covers, the colour is a rich and full yellow, like that of the *Orioles*, rather deeper on the breast, and somewhat paler at the vent: the extreme edges of the quills are whitish.

The true relations of this rare bird perplexed us for near twelve years. We then had a specimen sent from Southern Africa, and now another has come from Senegal. Future discoveries will no doubt establish its union with the sub-genus *Estrelda*, between which at present we know of no positive link. The bill and feet are pale.

Total length, $6\frac{1}{4}$; bill from the gape, $\frac{8}{10}$; wings, $3\frac{2}{10}$; tarsus, $\frac{8}{10}$; hind-toe and claw, $\frac{7}{10}$; tail, beyond the wings, $1\frac{7}{10}$; from the base, $2\frac{1}{2}$.

BROAD-SHAFTED WHIDAH-FINCH.

Vidua paradisea, CUVIER.

PLATE XI.

Black; body beneath, fulvous; nape, sides of the throat and breast, rufous-orange; two middle tail-feathers (in the male), short, broad, and spatulate, terminating in long filaments.

Emberiza paradisea, *Linn. Auctorum.*—Grande Veuve d'Angola, *Planch. Enl.* 194; *Edwards*, 86.—Whidah Buntling of authors, *Gen. Zool.* 418.

OF all the genera composing the family of Weavers, this is the most striking. It is composed of very small birds, mostly not larger than canaries. The males, during the breeding season, are decorated with exceedingly long tail-feathers, often four times the length of the bird itself, and which, however ornamental, must, from their disproportionate size, rather impede the action of flight. Little or nothing is known of the habits and manners of the Whidah Finches in a state of nature, but they have always been among the most favourite cage-birds; and although not very frequent in the houses and aviaries of this country, they are common in those of France and other parts of the continent. Numbers of these, and of the other pretty little

BROAD SHAFTED WHIDAH FINCH

Finches of the same country, are imported into France by the Senegal traders, and sold to the *marchants des oiseaux* of Paris. We were, indeed, not a little surprised, during a residence in that city, to find between a hundred and fifty and two hundred of these inhabitants of the torrid zone flying and sporting about in a small dark dirty room, transformed into a sort of aviary, in one of the meanest houses on the *Quay Voltaire*, two rooms only of which were tenanted by a *marchand des oiseau*—his birds living in one, and himself and family in the other. We have even been assured that these ingenious people, who are really practical ornithologists, contrive to breed several of these African natives in their dingy quarters.

The upper plumage of the species before us is deep brownish-black, much paler on the wings, and even upon the lateral tail-feathers. The head, ears, chin, and throat, are enveloped in a hood of this colour, which extends down, but narrows upon the middle of the breast. There is a broad collar on the upper part of the neck, of a rich orange-rufous, which unites with a deep tinge of the same colour on the sides of the neck and breast; and this, again, fades into a pale buff on the body, belly, and thighs, leaving the under tail-covers, like the upper, black. The four lateral tail-feathers on each side are graduated, each being about a quarter of an inch longer than the others; the two next, however, are enormously long, often measuring twelve inches from the base, and about three-quarters of an inch

wide; they are placed vertically, with their outer surface very convex: the two middle feathers, on the contrary, have only three inches of their shaft very broadly webbed; it then ends in a slender hair of about three inches more. All the feathers are more or less vertical, so that the tail is altogether boat-shaped. The bill is black, and the feet brown.

Total length, exclusive of the two pair of long feathers, $5\frac{3}{4}$ inches; bill, $\frac{4}{10}$; wings, 3; lateral tail-feathers, $2\frac{1}{2}$; tarsus, $\frac{6}{10}$; hinder toe and claw equal with the lateral ones; hinder claw as long as its toe.

CRIMSON-COLLARED WHIDAH.

Vidua rubritorques, SWAINS.

Glossy black; a crimson collar round the front of the neck; six of the tail-feathers very elongated.

MORE than fifteen years ago we saw a specimen of this very lovely species in a collection of birds sent from the interior of Southern Africa, nor did we again meet with it until the Senegal specimen now before us came into our possession. It seems to have been passed over as the *Vidua Panayensis* of the East Indies, from which however it differs in having a red gorget on the upper part of the breast, instead of a spot of red in the middle of the body;

there is likewise a material difference in the tail-feathers.

The size is rather larger, but its general structure precisely the same as the last: the bill, however, is more lengthened, and the feet, in proportion, much larger, the toes and claws being particularly long and slender; the hinder toe is considerably longer than the lateral toes; while the middle toe and claw exceeds the length of the tarsus, whereas in the last species they are of equal length. The bill is large, more lengthened in proportion than that of the last, and the upper mandible more bent towards its tip, so that the outer half of the commissure is distinctly arched beyond the sinus in its middle part. The tail is conspicuously forked, the outer feather being five inches longer than the middle; the intermediate ones graduated at nearly equal distance. From the circumstance of the longer feathers being concave, we conjecture that the tail in the living bird is boat-shaped, or laterally compressed, something in the same manner as that of *Vidua paradisea;* yet as they are very flexible, we cannot decide on this point with any certainty.

The entire plumage, both above and below, is deep and glossy black; paler and inclining to brown on the wings, where the tertials have a pale fulvous external margin. The bright orange scarlet band is situated across the upper part of the breast, or rather at the lower part of the throat.

Total length, from the bill to the tip of the wings, $4\frac{1}{10}$ inches; tail beyond, 6; bill, from the gape, $\frac{1}{2}$;

wings, 3; tarsus, $\frac{8}{10}$; middle toe and claw, 1; hinder ditto, $\frac{6}{10}$.

Since the above was written, I find a specimen of this species among those collected in Southern Africa by Mr. Burchell. It is a younger bird, having the tail-feathers shorter; the greater covers and lesser quills are also margined with fulvous-white.

RED-BILLED WHIDAH.

Vidua erythrorhynchus, SWAINS.

PLATE XII.

Bill red; plumage above black; spot on the scapulars, ears, nuchal-collar, rump and under parts, white; breast with a black spot on each side.

Emberiza vidua, *Linn. Auctorum.*

THERE seems to be considerable confusion between three of the Whidah birds described by Linnæus as distinct species, under the names of *E. vidua*, *principalis* and *serena*. The two latter have a strong resemblance to the bird before us, which seems the *E. vidua* of Linnæus; but there is no published evidence whatever to authorize our uniting all three under one specific name. Authors have omitted to notice the white nuchal-collar seen in our specimen,

RED. BILLED WHIDAH

and also the black spot on the chin; this latter character, however, does not exist in another specimen we possess, of uncertain locality, but which, in every other respect, minutely agrees with that from Senegal. Are they varieties, or different sexes, or from different localities?

The Red-billed Whidah, in size, is less than the *V. paradisea*, and is altogether an aberrant species of this small group. The bill is shorter, thicker, and broader at the top, so as to resemble that of the succeeding genus, *Amadina*. The four middle tail-feathers are greatly elongated; two are convex, and two (one within the other) are concave,—so that when all four are closed, they form a sort of cylinder; and but for their extremities, appear at first sight to be all one. The ordinary tail-feathers, four on each side, are slightly rounded. The tertials, or at least one of them, is as long as the primaries.

In the adult, the general colour is deep glossy blue-black; this colour covers the crown and the back, between which is a pure white collar; the wings and scapulars are the same; the lower part of the back and margin of the tail-covers are white. A large spot of pure white nearly spreads over all the wing-covers. The ears, sides of the head, and all the under parts are pure white, but the black colour of the back advances on the sides of the breast, so as to form a half collar, open in front. The tail-feathers externally are black, but internally, white; this latter colour predominating on the outermost feathers. In the Senegal specimen, as before

remarked, there is a deep black spot on the chin, not the least of which is seen in the other.

Total length, with the middle tail-feathers, about 10 inches; without the long feathers, $4\frac{3}{4}$; wings, $2\frac{8}{10}$; tail, without the middle-feathers, $2\frac{2}{10}$; tarsus, $\frac{1}{2}$.

YELLOW-BACKED WHIDAH.

Vidua chrysonotus, SWAINS.

Velvet black; shoulder-covers and inter-scapulars, bright yellow; secondary and tertial quills, with their covers margined with whitish.

Fringilla chrysoptera, *Vieill. Ois. Chant.* Pl. 41.—Moineau du Royaume de Juda, *Pl. Enl.* 183, 1. *fig. pessima.*

THERE seems to be no less than three distinct species mixed up in the Synopsis of Birds, under the name of *Emberiza longicauda*. This confusion was transferred into succeeding compilations, until Dr. Latham in his last work appears to have omitted the whole. We should have supposed that our present species, and that figured by Brown in his Illustrations, pl. 11., had been the same, but he makes no allusion to the yellow on the back; and Dr. Rüppell has assured us that a species quite agreeing with this of Brown is actually found in Abyssinia. Both have yellow wing-covers; but the distinction of the species now before us rests on the back being

yellow also; we have thus felt obliged to substitute the name of *chrysonotus* for that of *chrysoptera*, the latter being alike applicable to both; the *Emberiza longicauda* of Linnæus still remains a distinct species.

The structure of this bird shews that it is equally aberrant with the last; the *V. erythrorynchus* leading to *Amadina*, while this connects the group with *Euplectes*. The tail is remarkably broad, fan-shaped, and flat, so that we suspect it assumes a boat-shaped form when the bird is alive. At all events, it is clearly the rasorial type of the genus *Vidua;* while in its lengthened bill, long slender toes, and in their proportions, it perfectly resembles *Euplectes*. The tertials are very broad, and as long as the primaries; the under tail-covers also are remarkably long, rendering it probable that the tail is often elevated, or at least spread out.

The general colour of the plumage is a full and intense black, glossy, but without any reflections; the feathers of the head and neck being very closely set, although not short, and, as Brown well remarks, inclining upwards. The upper part of the back is covered by a mantle of beautiful clear and full yellow, which extends to the shoulder-covers. The wings are black; all the feathers, excepting the primary and spurious quills being edged with brownish-white; in old birds, however, these edges become so much obliterated, that scarcely a remnant of them remains. The under wing-covers are nearly white, and the fore edge of the shoulders yellow;

the bill is deep black, except the edge and tip of the under mandible, which is nearly white; feet, deep brown.

Total length, $7\frac{3}{4}$; bill, $\frac{11}{20}$ from the gape; wings, $3\frac{1}{10}$; tail beyond, $3\frac{2}{10}$; from the base, $4\frac{1}{2}$; tarsus, $\frac{8}{10}$; middle toe and claw the same; hind toe and claw, $\frac{15}{20}$; lateral toes much shorter than the hinder, and equal; spurious quill, $\frac{1}{2}$.

CAPE, OR YELLOW-RUMPED WEAVER.

Euplectes Capensis, SWAINS.

Deep black; rump and wing-covers, brilliant yellow.

Loxia Capensis, *Linn. Auctorum.*—Le Pinson noire et jaune, *Buffon, Pl. Enl.* 101, 1. adult.—Grosbec tacheté du Cap de B. E. *Buffon, Pl. Enl.* 659, 1. young.—Cape Grosbeak, *Latham*, &c.

THE genus which immediately follows the Whidah Finches is that of *Euplectes* or the Weavers, so called from the extraordinary skill with which they fabricate their singular nests, which in some are pendant, and in other species united together under one common roof, so as to bear no small analogy to a bee-hive. Unfortunately, although we have accounts, and even specimens of many of the dwellings, great uncertainty hangs over the precise species of bird by which each is fabricated.

The bird before us is particularly striking in its plumage, and is one of the most typical of these ingenious architects, at least in its form; for in its bill it is almost an exact counterpart of the genus *Coccoborus* of the American continent. The Weavers, however, are entirely restricted to the old world; they are known by their very small spurious quill, and by their large and long toes and claws; the former, indeed, is generally so minute, that it can seldom be detected without very close examination, while the great length of the toes and claws (besides typifying the great footed rasorial types), probably enables them to be employed by the bird in building.

In the adult bird the feathers of the head and neck are so closely set, and so intensely black, as to resemble the richest velvet; the same rich black uniformly spreads over all those parts which are not yellow, but in young birds the upper plumage is light brown, with a black stripe down each feather; we suspect that the full plumage is not acquired even after the first moult; for although the bird is common to Senegal and other parts of Africa, the specimens usually seen are in immature plumage. The wings reach only to half the length of the tail, which is slightly rounded, and has the feathers broad and truncate; the tertials are lengthened as long as the primaries, the four or five first of which are nearly of equal length; these and the scapulars are edged with brown. The hinder toe, with its claw, is considerably longer than the lateral ones; and the middle is equal to the tarsus, although

the latter appear so much lengthened. Authors mention that this species is found also on the Coromandel coast, but this locality wants confirmation.

The yellow upon the back does not spread over the upper tail-covers, while that on the wings occupies the shoulder and the lesser covers above and beneath; this tint is remarkably pure and brilliant.

Total length, $5\frac{3}{4}$; bill, from the gape, $\frac{7}{10}$; from the front, the same; wings, $3\frac{3}{10}$; tarsus nearly 1; tail, from the base, $2\frac{7}{10}$.

BLACK-BELLIED WEAVER.

Euplectes melanogaster, SWAINS.

Pure yellow; back, wings, and tail, brown; ears, chin, throat, and middle of the body beneath, velvet black.

Black-bellied Grossbeak, *Brown's Illus.* Pl. 24, 2.—Loxia melanogaster, *Latham, Ind. Orn.* i. 395.—Black-bellied Grossbeak of authors.

THE only figure which exists of this rare and highly elegant species is that given in the "Illustration" of Brown, where it was first described, and whose imperfect account has been copied by subsequent writers. We take the following description from a specimen sent from Senegal, thus fixing the locality of the species, and arranging it for the first time in its natural genus.

Notwithstanding the difference of its colour, this species has a close affinity to *E. ignicolor*, having not only the same structure, but even the covers so long as to reach half the length of the tail-feathers.

The general ground colour of the plumage is pale yellow, similar to that of the canary. A deep black velvety patch envelopes the ear, sides of the head, chin, and front of the throat; the breast and its sides are pale yellow, having a slight tinge of rufous in the middle. The middle of the body and flanks beneath are covered by another patch of black, which is pointed towards the breast, almost dividing it into two portions, yet without touching the black on the throat; the thighs and under-covers are yellow. Wings and tail, brown, with pale edges; the latter short and even. The inter-scapulars are pale yellow, varied with some brown stripes; bill, black; legs, pale.

Brown, who seems to have observed this bird alive in confinement, observes, that "in winter its plumage changes to a light brown."

Total length, $4\frac{1}{2}$ inches; bill, $\frac{1}{2}$; wings, $2\frac{5}{10}$; tail beyond, 1; ditto from the base, $1\frac{1}{2}$; tarsus, $\frac{1}{2}\frac{5}{0}$.

SHORT-TAILED CRIMSON WEAVER.

Euplectes ignicolor, SWAINS.

Vermilion; fore part of the head, ears and body beneath velvet black; wings light brown; tail very short, almost concealed by the lengthened covers.

Fringilla ignicolor, *Vieill. Ois. Chant.*, Pl. 59.

A MORE splendid little bird than this, having but two rich colours on its plumage, cannot be conceived. The red is of the clearest and brightest vermilion, while the texture of the feathers, and their intense black, makes them to imitate the richest velvet. M. Vieillot, in whose costly work above cited there is an accurate although not elegant figure, describes it as a new species inhabiting Senegal; and as a fine specimen is in our museum, we here introduce it in our volume, although it was not received through the same channel as the majority of the species here described. We of course adopt the original specific name, a plan we always pursue, except when there exists a decided objection. M. Vieillot mentions that, although a native of the tropics, it bears the temperature of the French climate very well. We can feel no surprise at this, after the fact mentioned at page 162; our only astonishment is, that so few of these beautiful African

finches are to be found alive in the possession of the lovers of birds in this country. We might surely preserve, and even rear them much better than the poor *marchands des oiseaux* of the dirty garrets in Paris.

This is one out of three, if not four distinct species, confounded in our systems under the common name of grenadier-grosbeak, or the *Loxia oryx* of the Linnæan ornithologists.

The structure of the present species differs in some respects from the last; its bill is shaped more like that of a *Vidua*, being somewhat lengthened; the culmen more curved than the gonyx, and the commissure sinuated. This at once points out the intimate connexion of these two genera; while, by the feet, wings, and tail, it is brought close to *E. Capensis*. The black of the under parts commences at the breast and terminates at the belly, leaving the thighs and under tail-covers, which are equally long with the upper, of the same rich scarlet. The wings are brown, all the feathers being edged with a lighter colour. The first quill is rather shorter than the second and third; the inner wing-covers delicate light buff; and the legs very pale. Tail brown, very short and almost even; the covers reaching nearly to the tips.

Total length, $4\frac{1}{2}$; bill nearly $\frac{1}{2}$; wings, $2\frac{1}{2}$; tarsus, $\frac{8}{10}$.

CRIMSON-CROWNED WEAVER.

Euplectes flammiceps, SWAINS.

PLATE XIII.

Crimson; ears, sides of the head, chin and body beneath, velvet-black; crown, red; wings and tail, blackish.

WE can find no account of this rare and apparently new species. It is almost as beautiful as the last, and long has been in our museum as a reputed native of Senegal. We have no doubt of such being the fact, because the skin is prepared in precisely the same manner (which is altogether peculiar) as those we have recently received from that country.

A glance at the specific description will at once show in what manner this species differs from *E. ignicolor*, although both are coloured with the same tints. The black on the sides of the head and ears does not, as on the last, extend to the front, but envelopes the chin; this latter part in *E. ignicolor* being scarlet. The wings also, and their covers, both above and beneath, are entirely black; while the tail, which is nearly even, is also black and is fully one inch longer than the covers. In both species the black on the under parts of the body are the same, but the thighs and the basal half of the

CRIMSON CROWNED WEAVER

under tail-covers in the bird before us are buff; the terminal or longest tail-covers being nearly white.

M. Vieillot having very well figured and described another of these splendid scarlet and black Weavers, under the specific name of *oryx*, we propose retaining the old name to that species. We may therefore consider it as the *Euplectes oryx*, while the following specific character will distinguish it from the two preceding.

GRENADIER WEAVER.

Euplectes oryx, SWAINS.

Crimson; crown, chin, ears and body beneath, black; wings and tail brown; the latter not concealed by the covers.

Loxia oryx, *Vieill. Ois. Chant.* Pl. 66.

THE dimensions of our *E. flammiceps* are as follows:—Total length, $4\frac{3}{4}$ inches; bill $\frac{6}{10}$ from the gape; wings, $2\frac{3}{4}$; tarsus, $\frac{8}{10}$; tail from the base, 2; beyond the wings, 1.

CRIMSON-BILLED WEAVER.

Euplectes sanguinirostris, SWAINS.

Above light brown striped with black; crown and body beneath ferruginous; frontal band, ears and chin black; bill crimson.

Loxia sanguinirostris, *Linn.*—Moineau à bec rouge du Senegal, *Pl. Enl.* 183, *fig. pessima.*—Moineau du Senegal, *Pl. Enl.* 223, f. 1, adult.—Black-faced Buntling and Red-billed Grosbeak of authors.—Le Dioch, *Vieill. Ois. Chant.* pl. 22, male; 23, female.

THE bright blood-red colour of the bill in this pretty bird will distinguish it at first sight from all the species of Weavers with which we are at present acquainted; while its very large feet, and high elongate-conic bill, shews it to be a true species of the genus *Euplectes*.

So little dependence can be placed upon the accuracy of the old ornithologists, more especially in this extensive family, that they have actually described this bird under two different genera; a convincing proof that the bill alone is quite insufficient to characterize the natural groups of *Fringillidæ*.

The Crimson-billed Weaver is one of those species which are reared by the Parisian dealers with perfect ease. M. Vieillot mentions his having pos-

sessed many individuals, and he gives some interesting accounts of its manners, which we regret our space will not permit us to transcribe.

In advanced age, or perhaps when in the highest plumage, the males sometimes assume a richness of colouring far more beautiful than what the generality possess. M. Vieillot has figured one of these under the name of *Le Dioch*, from the rose colour which supplants the ordinary tint on the crown, throat and under plumage. In every thing else, he observes, the two are precisely alike.

Authors assert that this species varies considerably, but they do not appear to be aware that this variation, with the above exception, is merely caused by the moulting of the young males, which, like nearly all other birds, are first like the females. The figures of M. Vieillot are certainly the best, but neither are very accurate, for the tails of all are represented as *forked*, instead of being even; the feathers, however, are nevertheless divaricated, that is, the two middle are very slightly shorter than the others. A truly forked tail is entirely unknown in this sub-family.

Total length about $4\frac{1}{2}$ inches; bill, from the gape, $\frac{4}{10}$; wings, $2\frac{1}{2}$; tail beyond, $\frac{8}{10}$; tarsus, $\frac{7}{10}$; hind toe and claw the same.

RED-BREASTED BENGALY.

Estrelda sanguinolenta, SWAINS.

Above light brown; beneath varied with yellow and orange; flanks with transverse brown lines; eye-brows and upper tail-covers crimson.

Fringilla sanguinolenta, *Pl. Col.* Pl. 221, fig. 2.

THE remaining species of weavers belong to a group which we have separated from the former, on account of their much smaller feet and shorter bill, the upper mandible of which is much broader at the top than it is high on the sides. This structure we consider a modification of the *depressed*, or *fissirostral* form; although the bill, when the mandibles are closed, becomes conic. Now this character of the breadth of the upper mandible is precisely what we find in the genus *Coccothraustes*, which is the fissirostral genus in the adjoining circle of hard-bills, but which has not the spurious quill of the true weavers seen in the present group.

The great number of species composing this division, naturally leads us to expect many slight variations in structure; and such there are. Of these divisions, or sub-genera, *Estrelda* appears to be one, and the birds composing it are typically known by their more lengthened and graduated tails, and more elongate conic bills. These birds, as shewing an affinity to the whidahs, and particularly to *V.*

erythroryncus, will first claim our attention. The French call them *Senegals*, because so many come from that country in the way of commerce; they are, however, dispersed over South Africa, India, and even New Holland.

The beautiful little species before us seems not uncommon in that part of Senegal which lies near the great river Gambia. It does not appear, however, in the work of Vieillot, and is only indifferently figured in the *Planches Colores*. It is among the most diminutive species, measuring only about three inches and a quarter. It is not a very typical species, inasmuch as the tail is short, and only the two lateral feathers on each side are abbreviated or rounded; the three anterior claws are small, but the hinder is nearly double their length, and all are very slender and but little curved.

The colour of the upper parts, wings, and sides of the neck and body, is light brown; over the eye, and before it, a crimson stripe; the rump and upper tail-covers are also crimson. The under parts, from the chin to the tail-covers, straw-yellow, which colour forms short transverse lateral bands on the brown of the sides of the breast, body and flanks. This yellow deepens into rich orange-red in the middle of the breast, body, and all beyond. Tail, blackish; the two lateral feathers on each side are edged with white and rounded, the rest even; bill, pale, the top and base blackish; feet, pale.

Total length, $3\frac{1}{4}$; wings, $1\frac{7}{10}$; bill, $\frac{3}{10}$; tarsus, $\frac{4}{10}$ tail, $1\frac{4}{10}$ (base).

CRIMSON EARED BENGALY

CRIMSON-EARED BENGALY.

Estrelda phœnicotis, SWAINS.

PLATE XIV.

Grey-brown beneath; tail blue; ears, in the male, crimson.

Fringilla Benghalus, *Linn.* i. 323, male.—Fringilla Bengalus, *Vieill. Ency. Meth.* 987, 122.—Le Bengali, *Buffon*, *Pl. Enl.* 115, 1, *fig. pessima.*—Blue-bellied Finch, *Edwards*, 131, female; *Latham*, &c.—Le mareposa, *Vieill. Ois. Chant.* Pl. 5.

THE most remarkable peculiarity in this elegant little bird, and that which immediately strikes the observer, is the deep red spot upon the ears of the male. We propose, therefore, to name it from this circumstance, seeing that the former appellation of *Benghalus* is in violation of that rule of systematic nomenclature which interdicts all specific names taken from barbarous words. Whether Linnæus intended to imply that this bird inhabited Bengal, or Benghaly, a name no longer found in the modern geography, is altogether uncertain; but as the French have long applied it to the entire group, it cannot be retained as distinctive of any particular species.

The form is altogether typical of this section or type of the genus: the bill is lengthened, conic, and

CRIMSON EARED BENGALY

the tail is long, slender, and graduated; the wings only reaching to the ends of the under tail-covers. There is a peculiarity, however, in the wing-feathers; the first quill is minute and spurious, but the second is fully two-tenths of an inch shorter than the third, and is considerably narrowed at its end, like many of the representatives of the rasorial type. The feet are stronger than in the last; the claws broader and more curved, and the hinder one shorter, so that it is not equal to its toe.

The colouring is very delicate; a light greyish-brown spreads over all the upper parts, excepting the tail and its covers; these parts, together with all the under plumage (the middle of the body being alone white), are of a sky or verditer-blue; the ears of the male have a deep purplish red spot, which is wanting in the female; the bill in the live bird, as Edwards says, is of a "dirty flesh colour;" but in our dried specimens, it is discoloured with blackish; legs, whitish. All the tail-feathers are graduated, with about a tenth of an inch between each. Edwards' figure of the female is very good. The Portuguese import it, with many others, from their settlements on the African coast, and call it *Azulina*, or the Blue-bird.

BLACK-BELLIED BENGALY.

Estrelda melanogaster, SWAINS.

Delicate cinereous; belly and tail, black; lower part of the back, rump and upper tail-covers, dark crimson; lower tail-covers black.

THIS delicate and very rare species seems to be entirely undescribed; the only specimen, indeed, we have even seen, is one in our museum supposed to have come from this part of Africa; a supposition highly probable, from its near resemblance to the species next described.

The Black-bellied Bengaly is one of the very least of its species, measuring only two inches and a quarter from the base of the tail to the tip of the bill. The tail, however, which is long, makes the bird appear larger, so that its total length is rather more than four inches. The general colour of the whole plumage is nearly of a uniform cinereous, without any mixture of brown, and scarcely paler on the throat and breast; on the under part of the body, however, this colour gradually changes into deep black, which spreads over the belly, vent, under tail-covers, and to the tail itself; when this black begins on the *under* plumage, deep red commences on the upper, which extends to the su-

perior tail-covers. The wings are like the back, but the tail-feathers, all of which are graduated, are deep black. The quills are similar to those of the last species, but the second is not narrowed; claws, broad and well curved; legs and bill pale; the latter dark at its tip.

Total length, $4\frac{1}{4}$; bill, from the gape, $\frac{5}{10}$; wings, $\frac{9}{10}$; tail beyond, $1\frac{1}{10}$; ditto, from the base, 2; tarsus, $\frac{1}{2}$.

CINEREOUS BENGALY.

Estrelda cærulescens, SWAINS.

Delicate cinereous; throat paler; belly and flanks darkest, with a few snowy spots; rump, tail-covers above and beneath, and margins of the tail-feathers crimson.

Le Bengali gris-bleu, *Vieill. Ois. Chant.*, Pl. 8.—Fringilla cærulescens, *Vieill. Ency. Meth.* 986, 119.

M. VIEILLOT, whose work upon the inter-tropical finches is in many respects highly valuable, was the first to describe and figure this lovely little bird; he has, however, overlooked the delicate snow-like spots on the flanks, and by an error in his specific character, the *bill*, instead of the *tail*, is described as red*; the former, in several specimens that have

* Uropygio *rostroque* rubris, instead of uropygio *caudaque* rubris.—See *Ency. Meth.*, p. 986.

come under our examination, and as represented in M. Vieillot's former work, being decidedly black. In general size, this is not much larger than the black-bellied Bengaly, and like that has the typical structure of the bill and wings; the tail however is much shorter, and has only the two or three lateral feathers on each side rounded; the feet are rather larger and the claws well curved; the bill is also more lengthened. A delicate slate coloured cinereous tint, inclining to bluish, spreads over all the upper parts excepting the rump, tail-covers and tail, —all of which are of a rich crimson; the quills are light brown, and the inner web of the tail-feathers blackish. Through the eye is a deep and narrow stripe of velvet black. The slate colour of the upper part of the head and neck is gradually diluted nearly to white upon the chin, throat, and breast, when it again begins to be darker, so that the lower part of the body, the belly, and the flanks, are as dark as the back; on the flanks are about six or seven round silvery white spots on each side; while the under tail-covers are of the same rich crimson as the upper. The feet are dark brown and the bill almost black. The wings are shorter than the tail-covers.

Total length, $3\frac{3}{4}$ inches; bill $\frac{4}{10}$ from the gape; wings, 2; tail beyond, hardly 1; from the base, $1\frac{1}{2}$; tarsus, $\frac{1}{2}$; hind-toe and claw, $\frac{4}{10}$.

RED COLLARED BENGALY

RED-COLLARED BENGALY.

Amadina fasciata, SWAINS.

PLATE XV.

Pale testaceous, with transverse angulated stripes; middle of the body cinereous; belly white; a crimson bar across the chin and ears.

Loxia fasciata, *Gmelin*, *Latham*, &c.—Fasciated Gros-beak, *Brown's Illus.*, Pl. 27.—Le Loxia Fasciée, *Vieill. Ois. Chant.*, Pl. 58, p. 90, fig. opt.

WE now come to another division of the genus *Amadina*, where the bill assumes the typical character of the whole group; that is, it is short, yet remarkably broad in proportion to the heighth of the upper mandible; the tail also is short. The feet, however, still retain the structure of the last group, for the hinder-toe and its claw are shorter than the tarsus. The most perfect example we have yet seen of this modification is the beautiful *Amadina Lathami* of New Holland. Yet the one now before us is also a typical species. Nearly all these small footed species are found in Africa and New Holland, while the great footed Bengaly (representing, or perhaps uniting to, *Euplectes*), are chiefly inhabitants of tropical Asia. This elegant bird is about the size of a canary. The

ground colour of the plumage, both above and beneath, is of a delicate fawn or isabella colour, prettily variegated with short angulated transverse lines, of which one or sometimes two are at the tip of each feather; these lines are close and broad upon the head, and partly obliterated in the middle of the back, and are few and wide asunder on the flanks; the wing-covers and the tertials are marked in the same manner, but the primaries and secondaries are brown, simply edged with fawn; the chin and beginning of the neck is nearly white, crossed by a bright red bar, which also covers the ears; the rest of the throat is plain fawn, which colour is continued on the flanks and under wing-covers. The middle of the breast is marked by several large white spots, almost round and partly encircled with black,—then comes a patch of deep cinnamon, analogous to that in the partridge, and below this spot the middle of the belly becomes white. The tail is rounded; all the lateral feathers are blackish brown, with clear white tips; the middle pair alone being of the same colour as the wings. Bill and feet whitish.

In regard to the form, we may observe, that the first perfect quill is the longest; the hind-toe and claw is shorter than the lateral ones, and not so long as the tarsus; the claws are curved and rather broad.

Total length, 5 inches; bill from the gape, $\frac{4}{10}$; wings, $2\frac{3}{10}$; tail, $1\frac{5}{10}$; tarsus, $\frac{1}{2}$; hind-toe and claw, $\frac{4}{10}$.

GLOSSY BLACK BENGALY.

Amadina nitens, SWAINS.

Entirely glossy blue-black; inner wing-covers white; the bill and legs, pale flesh colour; flanks with a concealed white spot.

Fringilla nitens, *Linn.*, *Vieill. Ency. Meth.* p. 955.—Moineau du Brazil, *Buffon*, *Pl. Enl.* 291, 1 and 2.—Le Moineau Camba-jou, *Vieill. Ois. Chant.*, pl. 21, *Ency. Meth.*, p. 955.

THE numerous vessels which trade with the natives of Western Africa annually import, not only to Europe, but to her American colonies, a great number of the small singing birds of this tribe, which are often to be met with in the houses of the maritime ports of South America; from whence, again, it frequently happens they are transported to Europe. It was probably owing to this well known fact, that Buffon first described the bird before us as a native of America, and the error was perpetuated in all succeeding systems, until pointed out by Vieillot, who does not appear, however, to be aware of the manner in which it originated. We know, from personal observation, that the Portuguese colonists are very fond of these little African birds; for they may be very frequently seen exposed for sale at the different ports of South America.

composed of five divisions or types of form*, than to call these latter sub-genera.

On comparing the structure of this bird with the last, we find that the base of the under mandible is thicker than that of the upper, and that the hind-toe is as long as the tarsus. We have been told that most of these little Bengalies feed upon the hard seeds of the African millet, and some other of the tall grasses, or rather reeds, so common in the swamps of that country; this fact is in unison with the hardness of their bill, while the structure of their large slender feet and claws is precisely that most adapted to secure a hold or footing on smooth and upright stems.

Upper plumage, light sepia or greyish-brown. The whole of the head and neck, as far as the breast, is of a deep brown, almost black, over which is a gloss of lilac-bronze. There are also two other dark bronzed patches, one on the sides of the breast and the other upon the shoulder-covers, but these have green reflections. The wings are the same as the back, the edges of the quills being whitish, assuming the appearance of half broken lines; lower part of the back, upper tail-covers, flanks, and thighs, are crossed by numerous brown lines, upon a whitish ground. All the under parts are

* In this case *Amadina*, being one of these five divisions, must be cancelled, and the species placed under *Estrelda*, the characters of which must be so altered as to embrace those of its five types, namely, *Estrelda* (as here restricted), *Amadina*, *Spermestes*, *Pytilia*, and *Erythura*; all which will be characterized in the forthcoming volumes of the Cabinet Cyclopedia.

RED WINGED BENGALY

pure white; the under tail-covers have a few lunulate lines. Tail black, very short and rounded; bill and feet, black.

Total length, $3\frac{1}{4}$; bill, $\frac{5}{10}$; wings, $1\frac{8}{10}$; tail beyond, $\frac{7}{10}$; tarsus, $\frac{9}{20}$; hind-toe and claw the same.

RED WINGED BENGALY.

Pytilia phœnicoptera, SWAINS.

PLATE XVI.

Cinereous; body beneath, transversely and laterally banded with whitish; rump and margins of the wing and tail-covers crimson.

THE region whose ornithology we are now illustrating, has furnished us with what we at present consider as four of the types of *Amadina*. The first is represented by the little *Estreldæ*, with long or at least cuneated tails; the second is exemplified by the great billed *Amadina fasciata*, where the tail is always short, and the tarsus longer than the hind-toe. The third or great footed division is shewn in our *Spermestes cucullata*, and for the fourth we adduce, as an example, the bird before us. What we consider as the fifth type, belongs to India; it has a long pointed tail, and is represented by the *Fringilla sphecura* of Temminck, a name which neither its generic or specific sense can be

retained; the latter should be obviously written *sphenura**.

Nearly all the types which represent the order of waders have the bill much more lengthened than any of their immediate congeners. We see this throughout all the larger groups of nature, whether in quadrupeds or birds, fishes or insects. We may even trace it in the present sub-family, in the genus *Carduelis*, and we find this same character in the type before us, distinguished as it is by having a more lengthened bill than is to be found in any of the divisions just named. It is separated from *Estrelda* by its short tail, and from *Amadina* by its lengthened bill. A second example is that lovely bird the *Fringilla elegans* of authors. Both these, in addition to the above characters, have the second quill shortened, and conspicuously narrowed towards the end; the feet are small, and the tail almost even; the bill, as before observed, is shaped like that of *Euplectes*.

Of this beautiful and entirely new species we have never seen more than one specimen. The upper parts are light grey or cinereous, inclining to brown; but all the feathers of the wing, except the scapulars, are deeply margined with rich scarlet. The throat and breast are like the back, but minutely freckled with whitish; the remaining under parts are nearly white, with transverse cinereous bands on the sides of the body and belly, which bands become

* This is the *Erythura viridis* of our "Treatise on Ornithology."

spots on the under tail-covers. Tail, blackish; the feathers margined with crimson; rump and upper covers entirely crimson.

Total length, 4 inches; bill, $\frac{8}{20}$; wings, $2\frac{8}{10}$; tail beyond, $\frac{7}{10}$; from the base, $1\frac{7}{10}$; tarsus, $\frac{6}{10}$; hind-toe and claw, $\frac{4}{10}$; middle ditto, $\frac{11}{20}$.

With this bird we terminate the series of the *Plocianæ* or weavers; the few other finches we shall now describe, belong to the bull-finches, *Pyrulinæ*, and the sparrows or true finches *(Fringillinæ)*.

YELLOW-RUMPED BULL-FINCH.

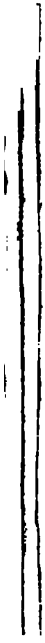
Crithagra chrysopyga.

PLATE XVII.

Olive-grey; rump, front, eye-stripe, and under plumage, yellow; tail short, tipt with white.

The little bird we now distinguish, for the first time by the above name, is the only species we have yet received from Senegal belonging to the family of Bull-finches; this division of the finch family, as a whole, is distinguished from all others by a short and strong bill, curved above, and more or less swollen or inflated on the sides; the under mandible is generally stronger or thicker than the upper, which, with the arched commissure, forcibly reminds us of the bill of the parrots. Our own beautiful native species exhibits these peculiarities very strongly, and will give the student a very good idea of the whole group.

But as the Bull-finches pass insensibly into the haw-finches, so there must be one part of the series where the characters of both are so blended, that it will be difficult to say, looking merely to a single species, which are the most predominant; whether, in other words, our bird belongs to one or to the



YELLOW RUMPED BULLFINCH.

other Geographic distribution and a knowledge of other species then comes to our aid, and in most cases enables us to decide, with tolerable accuracy, the affinities of such intermediate forms. Of this character is the present bird: it certainly belongs to the genus *Crithagra*, which seems the first of the Bull-finches, after leaving the linnets. This genus is abundant in Africa, where on the other hand the linnets, so far as we know, are not to be found. Upon the juxta-position of these two genera do we account for their very great resemblance.

Size of the red-pole linnet, upper plumage, including the crown, ears, wings, and tail—olive-grey, with a dark stripe down each feather; a broad stripe of bright yellow is above each eye, which meet on the front; and there is another below the ear-feathers, which leaves a maxillary dark stripe bordering on the chin; the upper tail-covers, and the whole of the under plumage, from the chin to the vent, is of the same clear and full yellow. The wings and the tail are darker than the back; the lesser and greater covers have each an obsolete band of yellow at their tips; while the tail, which is divaricated, is distinctly tipt with white. Bill and legs pale.

In structure, the first quill is hardly shorter than the second and third, which are the longest; the tarsus is not longer than the hind-toe; the claws slender, and the bill very little swelled.

Total length, $4\frac{1}{10}$; bill, $\frac{4}{10}$; wings, $2\frac{6}{10}$; tail beyond, $\frac{1}{4}$; from the base, 2; tarsus, $\frac{1}{2}$.

GREY-HEADED SPARROW.

Pyrgita simplex, SWAINS.

Head and neck grey; plumage above rufous; beneath whitish; wings and tail brown.

THE only true Sparrow we have yet received from Senegal has been found by Dr. Rüppell in Abyssinia, and is that which he informs us has been described by Professor Lichtenstein under the name of *Fringilla simplex;* he also informs us that the two sexes are always alike, but for this assurance we were certainly disposed to consider our bird as the female of the crescent sparrow, *Pyrgita arcuata*, figured on the *Pl. Enl.* 230.

There is not the slightest difference, in point of structure, between this species and our own domestic sparrow; even their size are as nearly equal as possible. In both species the tail, as in all the true finches *(Fringillinæ)*, is moderately long and divaricated; the four first quills equal and longest; the lateral toes of the same length, and the tarsi elevated.

The colours are very simple; the head and neck are uniform light grey, becoming cream-coloured white on the throat and breast, but there is a stripe under the chin as pure as the white of the body.

The inter-scapulars or upper part of the back is brown, tinged with rufous,—this latter colour becomes deeper and brighter on the rump and upper tail-covers; the wings and tail are brown, but the covers of the quills are rufous; the under plumage from the breast is white; bill black; legs pale.

Total length, 6 inches; bill, $\frac{6}{10}$; wings, 3; tail beyond, $1\frac{5}{10}$; ditto, from the base, $2\frac{1}{2}$; tarsus, $\frac{7}{10}$; hind-toe and claw, $\frac{5}{10}$.

CHESTNUT-CROWNED SAND-FINCH.

Agrophilus superciliosus, SWAINS.

Above brown; beneath white; crown and nape rufous; on each side of the throat a macular black stripe; band over the eye, and tips of the wing-covers, whitish; tail entirely brown.

Ploceus superciliosus, *Ruppell, Atlas*, pl. 15.

It is not surprising, considering the confused state this family was in some years ago, that the remarkable bird we shall now describe, was placed in a genus to which it has no affinity. It must be observed, however, that in the bill it certainly has a resemblance to many of the Weavers, although in all its other characters, as well as in its general

aspect, it evidently belongs to the true Finches of the sub-family *Fringillinæ*.

The structure of the wing in this bird is so entirely different from all its congeners, that with every wish to avoid a multiplicity of sub-genera, we deem it essential to add this to the number. According to our present views, it represents the American sub-genus, *Chondestes*, on the African continent; a relation which we deem to be one of analogy only, notwithstanding the close resemblance between the two types in all but their wings and tail. The wings, in fact, of *Agrophilus*, distinguish it at first sight from every other Finch (*Fringillinæ*) with which we are acquainted; for the first quill is so short as not to equal half the length of that of the second. The tail is narrow and quite even, while in *Chondestes* it is broad and rounded. We should not have thought this was the species figured in Dr. Rüppell's Atlas, had he not verbally assured us it was, the tarsi being represented in his plate much longer than in our specimen.

Size of a sparrow. Ground colour of the upper plumage light or drab brown; crown, nape, and part of the neck, above, chestnut rufous; ears nearly the same, but not so bright, having the space around and a stripe over the eye cream coloured white; on each side of the neck is a black stripe composed of triangular spots, which commence under the chin and extend as far as the breast; wings blackish-brown, with pale edges; the lesser covers, more especially, are broadly tipt with whitish; tail

YELLOW BELLIED OR CAPE BUNTING.

YELLOW BELLIED OR CAPE BUNTING.

entirely of the same brown as the back, the tips however are darker; all the remaining under plumage is dirty white; bill and legs pale; laferal claws even.

Total length nearly 6 inches; bill from the gape, $\frac{6}{10}$; wings, $3\frac{1}{10}$; tail beyond, $1\frac{6}{10}$; ditto, from the base, $2\frac{1}{2}$; tarsus, $\frac{8}{10}$; middle toe and claw, $\frac{7}{10}$; hind ditto, $\frac{1}{2}\frac{1}{0}$

YELLOW-BELLIED OR CAPE BUNTING.

Fringillaria Capensis, SWAINS.

PLATE XVIII.

Head black, with seven white stripes; plumage above varied with rufous and grey; beneath bright yellow; chin, under tail-covers, and tips of the lateral tail-feathers pure white.

Ortolan a ventre jaune du Cap. de Bonne Esperance, *Buffon.*—Emberyza Capensis, *Pl. Enl.* 664. fig. 2. *Latham.*—Omitting synonyms.—Emberyza flavigaster, *Ruppell, Atlas*, pl. 25. immature male.

THIS is perhaps the most richly coloured species of the whole genus of Buntings; a group which, with few exceptions, is more remarkable for its plain and sombre cast of plumage, than almost any other among the finches.

There seems to be some confusion in our syste-

matic works respecting the original *E. Capensis*, apparently originating in Dr. Latham placing under the same name, what appears to be very different birds. The original figure and description of Buffon, from which apparently the Doctor has drawn up his account, is sufficiently accurate to mark that bird as the adult male; a specimen of which we have examined, from the Cape. Another, here described, was sent from Senegal, and this we consider the female; we consequently reject all the other synonyms that have been applied to the *E. Capensis*, both by Latham and by subsequent writers.

The adult male differs from that described beneath, by having the breast deep orange; the last range of the lesser wing-covers and a half collar on the nape, pure white; the greater covers black, tipt also with white; there is more white also on the tail.

The colouring of our present bird is singularly varied; the top and sides of the head are covered by alternate black and white stripes; the former being broadest. The white stripes are thus disposed; one is on the centre of the crown, another springs from the nostrils and passes over the eye, a third takes its rise before the eye, and then passes under it, so as to cross the ears; this again is followed by a slender black stripe, below which there is a fourth stripe of white which adjoins the white spot on the chin, and the yellow on the throat. All these stripes terminate equally at the back of the head, and are margined by a line of black. The ground colour of the remaining upper plumage is light grey, tinged

with reddish rufous; this latter colour, however, is very strong on the middle of the scapular and interscapular feathers, which have also a dark spot on the centre. The wing-covers, primaries, and secondaries are dark brown, edged with very light grey; but the outer webs and tips of the tertials are rufous brown, but not so red as the back. The three lateral tail-feathers on each side are more or less white at the tips of their inner webs, but the outermost one has the external web white, except at its two ends. The under plumage is more simple. The tip of the chin and the under tail-covers are pure white; and the sides of the body buff-brown, but from the chin to the vent, the whole plumage is of a full, bright, and uniform yellow. Bill and legs brown; thighs nearly white.

Total length, $5\frac{1}{2}$; bill from the front, $\frac{4}{10}$; wings, $2\frac{7}{10}$; tail from the base, $2\frac{1}{2}$; tarsus, $\frac{7}{10}$.

WHITE-SPOTTED LARK.

Certhilauda nivosa, SWAINS.

Above fawn or testaceous, spotted with white; beneath white; the breast spotted with black; middle and external tail-feathers entirely testaceous; bill slender.

THE uniformity of colouring which runs through nearly the whole of the Lark family, is one out of the numberless instances of that harmonious design

which marks the visible creation. Continually exposed by the nature of their haunts to the observation of birds of prey and other enemies, the colouring of these birds has been assimilated so nearly to that of the ground, that they can scarcely be distinguished, even when close, by an ordinary observer; and however keen may be the sight of a hawk, the plumage of the Lark is so exactly like the earth upon which it moves, that although its presence might be detected by watching, it would never attract a passing enemy.

The present species appears to be altogether new, and is readily distinguished by its *spotted* plumage, when that of nearly all the other species is *striped*. Although the bill is shorter and less curved than in the typical *Certhilaudæ*, it has not the essential characters of the genus *Alauda* as now restricted; that is, the first quill is spurious, but in *Alauda* it is the longest; while the slenderness and length of the bill seems to point out this species as connectant between *Alauda* and *Certhilauda*.

The general tint of the upper plumage is of a very light fawn or clay colour, with a darker shade down the middle of each feather, more especially those on the crown,—each of which, together with those on the back and wing-covers is tipt with a roundish pale spot, almost white; the colour of the quills is precisely like that of the back,—the margins of the primaries and secondaries having a rufous tinge, while the tertials and scapulars are margined with whitish; the four middle tail-feathers and outer-

most, on each side, are almost entirely pale fawn tinged with rufous; the others being black, with a rufous edge on that only which is next to the outermost; round the ears there is a dark shade which unites to a macular stripe, proceeding from the lower jaw, leaving the middle part of the ears nearly white; the under plumage, from the chin to the vent, is white, broken only by a number of black spots, nearly round, across the breast; these spots are placed only on the tip of the feathers; bill and legs pale.

Total length, $6\frac{1}{4}$ inches; bill from the gape, $\frac{8}{10}$; wings, 4; tail beyond, $\frac{8}{10}$; from the base, $2\frac{1}{2}$; tarsus, $\frac{9}{10}$; hind-claw, $\frac{1}{2}$, in a straight line.

YELLOW-BELLIED, OR SENEGAL LONG-CLAW.

Macronyx flavigaster, SWAINS.

Above varied with black and brown; beneath fine yellow, with a broad black gorget on the breast; bill slightly curved, emarginate.

THE enormously large feet of this genus readily distinguish it from all others in this family, and immediately reminds us of its prototypes in other tribes, as *Megapodius*, *Menura*, *Rallus*, and nearly all the great footed representatives of the rasorial order of birds. Such it truly is in the circle of the *Alaudinæ*. Hitherto the genus has been only known

by one example, the sentinel lark of Le Vaillant, or the *Macronyx Capensis*, Swains.; the present is consequently a new species, readily distinguished at the first glance from the former, by its yellow throat and broad black gorget.

The developement of the foot, in the Senegal species, is in strict accordance with that which is found at the Cape; and we may therefore conclude that the habits of both are very similar. The sentinel lark has been so named by Le Vaillant, from its note, loudly and often repeated, perfectly resembling the challenge, *qui vive—qui vive!* whenever either man or animal passes near it. The Cape species, like the present also, has the posterior claws somewhat more curved than is usual in this family, by which, as Le Vaillant observes, it can perch with facility, although it is generally seen upon the ground, frequenting the open plains and the borders of rivers.

On comparing this with the *M. Capensis*, a very remarkable difference in the structure of the bill may be detected; it is of the same length in both species, but in this the upper mandible is much more curved towards its extremity, so as to appear almost arched from its base, the tip likewise is strongly and distinctly notched, instead of being entire; and the bristles at the base, which in *Capensis* are altogether obsolete, extend in this to half the length of the bill, so as to give it, with its general form, very much the appearance of that of a bush-shrike. The claws are larger, particularly

the hinder, which is a quarter of an inch longer; the tail is more lengthened. The dimensions of the two birds are in other respects the same.

Upper plumage light brown; the middle of each feather being more or less occupied by black; wings the same; tail blackish; the four lateral feathers more or less tipt with white. Under plumage bright and clear yellow, interrupted by a gorget of deep black, commencing beneath the eye, and widening to more than half an inch on the breast, the sides of which have dusky stripes; bill and legs pale.

Total length, $7\frac{1}{2}$ inches; bill from the front, $\frac{6}{10}$; wings, $3\frac{5}{10}$; tail from the base, $3\frac{2}{10}$; tarsus, $1\frac{4}{10}$; hind-toe and claw, $1\frac{6}{10}$; the claw alone, $\frac{9}{10}$; middle toe and claw, $1\frac{4}{10}$.

Here terminates the series of the Finch family, which is connected to the plantain-eaters by several intermediate genera not yet found in Western Africa.

VIOLET PLANTAIN-EATER.

Musophaga violacea, ISERT.

PLATE XIX.

Black, glossed with violet; crown and quill-feathers, crimson; bill yellow, tipt with red; beneath the eye a white stripe.

Musophaga violacea, *Isert, Berlin Tr.*—Cuculus regius, *Shaw, Mus. Lev.* 167. pl. 40.—Musophaga violacea, *Cuvier, Temminck, Latham, Shaw, Vieillot*, &c. &c. &c.

OUR admiration of this noble bird may perhaps be thought too great, when we esteem it as one of the princes of the feathered creation. Other birds are pretty, handsome, splendid, gorgeous, beautiful; but the colouring of this is regal. The shining black purple of the general plumage contrasts in exquisite harmony with the deep lilac crimson of its wings, the peculiar tint of which is certainly unequalled in any other known bird. The beak, although remarkably large, does not seem at all disproportionate, for it is neither fantastically formed like the horn-bills, or monstrously large as those of the toucans, while the rich yellow, passing into crimson, with which it is decorated, gives a relief to the dark colour of the plumage, and must add considerably to the beauty of the living bird.

Swainson del.

Lizars sc.

VIOLET PLANTAIN EATER.

It was in the forests of Acra on the Gold Coast, that M. Isert, a Prussian naturalist, first discovered the *Musophaga*;* but he observes that it is so rare in that part of Africa, that notwithstanding all his efforts, he could only obtain a single specimen. More recently, however, the hunters towards Senegal seem to have discovered some particular district where these birds are less scarce; and as whatsoever is rare or costly finds its way to England, our museums have been enriched with several specimens. No less than three in the highest preservation are now before us, and we shall at once proceed to describe the plumage and notice some particulars of the structure.

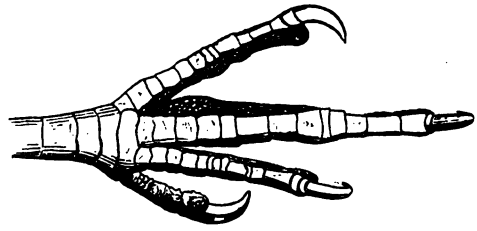
The assertion which has so generally been made, that this bird has the power of placing one of its toes either backward or forward, is completely erroneous. This error has no doubt originated from a partial inspection of the foot in the mounted specimens of museums, where of course the toes remain as disposed by the bird-stuffer, and cannot be displaced, much less relaxed by the inquirer. Dr. Shaw, who first made known the bird in England, confesses that he made his description from a drawing wherein the toes were placed in pairs, that is, two before and two behind. But Isert, whose original

* The effrontery with which some of the German nomenclators have endeavoured to set aside this name for one of their own, is unexampled in science; such synonyms should never be even quoted,—the best punishment their authors can receive.

account and figure the Doctor subsequently became acquainted with, speaks of and represents the feet as insessorial, that is, formed after the manner of ordinary perching birds. Both these accounts, however, in different degrees, are incorrect. There are, indeed, three anterior toes, all of which appear to be placed so directly forward as to be incapable of any turning; and this conclusion would be arrived at, even by a professed ornithologist, who contented himself with examining the foot in a dried state; but when it is relaxed, so that all the joints become as flexible as in the living bird, the true nature of its structure becomes apparent. The anterior outer toe is then seen to possess the power of being very slightly turned outwards, so as to describe the eighth part of a circle, but not more; for it is kept within this range by a conspicuous membrane, which actually unites it to the base of the middle toe, and demonstrates the utter impossibility of this toe being, as it is always described, versatile, any more than that of the falcon tribe, nearly all of which are constructed on the very same principle.

This remarkable formation is evidently intended to confer superior powers of grasping; just as the lateral inclination of the human thumb enables a person to grasp an object much more firmly than if it was on the same level with the other four fingers. The ordinary position of the toes is that of all perching birds; but when the bird is grasping a bough,

the annexed cut will give a correct idea of the position of the exterior fore-toe, when turned out as much as its nature will admit.



This form of foot is not peculiar to the present genus, but seems to be characteristic of all the true *Musophagidæ* excepting *Colias*, where all the four toes are more or less directed forwards.

The bill of this interesting bird is equally remarkable, not merely as to its singular form—for it enlarges and spreads like a casque upon the head—but likewise as to its substance, which is both light and semi-transparent. This fact has never been noticed, probably because it would not be very apparent in an ill-preserved specimen. Two magnificent skins, however, now before us, have been taken great pains with: the rich colouring of the bill has been preserved, probably by the blood being extracted, so that when held in a strong light, there are evident indications of that cellular texture of nerves, hitherto thought to be peculiar to the toucans. We know that this circumstance, if correct, may militate against our opinion that this is a

conirostral type, but we nevertheless think it should be candidly stated. According to our present views of the *Cuculidæ*, the plantain-eaters cannot enter into that circle.

The colouring, however rich, can be described in a few words. The outer half of the upper and the whole of the under mandible is of a bright crimson, blending into a fine and deep yellow on the frontal or thickest part; the orbits are entirely naked, and with the compact and velvet-like feathers of the crown, are of a glossy crimson; the ears are bordered above by a pure white stripe; the whole of the secondary and part of the primary quills are of the richest carmine glossed with lilac, more or less margined and tipt with the blackish violet which spreads over all the rest of the plumage; this violet gloss, however, becomes very dark green on the under parts, and is particularly rich on the tail. The legs are strong and black; the great length of the middle toe, together with the thick, hooked, and very broad claws, evince how completely this and the plaintain-eaters are constructed for living among trees, a fact which must have been overlooked by those who have fancied the *Musophagidæ* connected the perchers *(Insessores)* with the gallinaceous or rasorial tribes. The gape is very wide, and opens beneath the eyes.

Total length about 20 inches; bill from the gape, $1\frac{8}{10}$; from the front, $1\frac{8}{10}$; wings, $8\frac{1}{2}$; tail beyond, $4\frac{1}{4}$; from the base, $8\frac{1}{2}$; tarsus, $1\frac{1}{2}$; middle toe and claw, 2; lateral ditto, $1\frac{8}{10}$; hinder ditto, $\frac{8}{10}$.

PLATE 20.

VARIEGATED PLANTAIN EATER.

VARIEGATED, OR CRESTED PLANTAIN-EATER.

Chizærhis variegata, WAGLER.

PLATE XX.

Crested; body above cinereous, with brown spots; beneath white with brown stripes; head, throat, and breast brown; quill and tail-feathers blackish; the former with their inner half white; tail immaculate.

Le Touraco musophage, *Le Vaill. Prom. et Grimp*, pl. 20.—Phasianus Africanus, *Latham*, &c.—Musophaga variegata. *Vieillot*, &c.—Chizærhis variegata, *Wagler*, *species Avium*.

WESTERN AFRICA, or rather the intertropical regions of that little known continent, appear almost to be the peculiar and limited range of the different forms of the typical *Musophagidæ* or Plantain-eaters; one species alone being found in the territories of the Cape. The opinion we at present hold as to their place in creation, has been elsewhere enlarged upon. They seem to intervene between the hornbills and the finches; the passage to the latter being marked by the touracos, the colies, and the plant-cutters *(Phytotoma)*, these latter being unquestionably related to the finches.

The present bird certainly belongs to a different type to the last, and we accordingly adopt the new generic name that has been proposed for it. It differs most materially in the form and substance of its bill and in the shape and situation of its nostrils, although, in all other points of outward structure, they are perfectly alike. The bill, although not so thick at the base as that of *Musophaga*, is less

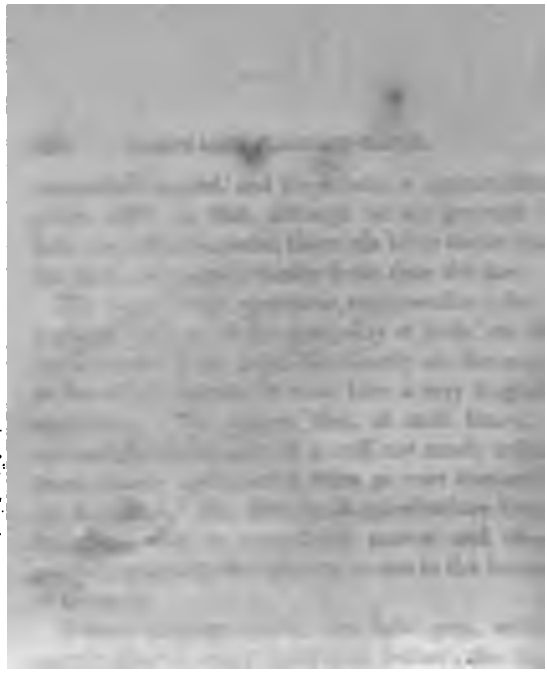


PLATE 21.

Swainson delt

Lizars sc.

SENEGAL TOURACO.

SENEGAL TOURACO.

Corythaix Senegalensis, SWAINS.

PLATE XXI.

Glossy purple; head, neck, breast, and crest, green; orbits naked, red; a snowy white stripe before and partly above the eye, with a black one beneath; crest entirely green.

Corythaix Buffonii, *Jardine and Selby's Illust. of Orn.* pl. 122.

THE Touraco or Crowned Plantain-eaters are perhaps the most elegant of the *Musophagidæ;* for they have the splendid crimson wings of the violet species, with a liveliness of colour in the full green of their plumage which that does not possess. Their crests also are conspicuous ornaments. Le Vaillant, with national enthusiasm, extols these birds, in a state of nature, as replete with charms (*pleines de charmes*) in all their movements and attitudes,—uniting the greatest agility with perfect elegance. He found them extremely difficult to shoot, as they always frequent the topmost branches of the highest forest trees; subsequently, however, he captured many of them in snares. Like the *Musophaga*, they live entirely upon fruits.

Considerable confusion has always hung over these birds; for although Buffon indicated at least

three species*, Linnæus confounded them under one. More recently the Cape Touraco has been separated as distinct, on account of the white margin of its crest; and that which Buffon describes as having this part purple, has also received a specific name. There yet remains, however, at least two other species, both having green crests, but one is *with* and the other *without* a reddish margin. These two have not only been confounded by Wagler, but the whole genus again thrown into confusion by his unwarrantable attempt to substitute his own new names, not only for the species but for the genus.

In this state of things, it seems best to retain the name of *Buffonii*, first given by Vieillot to the species, so well recorded by Edwards. That most accurate writer, in describing his Touraco, says, that "the very tips of the feathers on the crest are red," and that "*under* the eye is a white line which extends a little further back than the black one, but does not come forward so near the bill†." Neither of these characters appear in the Senegal species. In three specimens, now before us, there is no red whatever on the margins of the crest, neither is there any white stripe beneath the eye. The authors of the Illustrations of Ornithology, who seem to consider the Senegal species the same as that described by Edwards, have doubtless been led to do so by the confusion of the synonyms given by Wagler and Vieillot, for nothing can be more clear

* Hist. Nat. des Oiseaux, Ed. Sonnini, vol. xvii. p. 343.
† Edwards' Nat. Hist. of Birds, vol. i. Plate 7.

and explicit than the above quotations. Although not in general friendly to geographic names, there are some instances like the present where they may be applied with peculiar advantage, particularly if the principle had been extended to the other species. The true *(Corythaix) Persa* of Vieillot is peculiar to Southern Africa; the blue crested species, mentioned by Buffon, has only been found in Abyssinia, while this seems to be equally restricted to Senegal, or at least to the Western Coast of tropical Africa.

The general size of the Senegal Touraco is about equal to that of the Cape species; like that, also, the fore part of the crest, immediately before the eye, in the dead bird, is compressed vertically; the remaining portion, however, seems to be depressed horizontally as in the generality of crested birds. The bill in the dead bird is blackish purple in the middle, but bright crimson along the edge of the culmen and within the margin of the sides, the tips and serratures of both mandibles being blackish; it is possible, however, that in the living bird the whole may be red, although we think this is very doubtful. The orbits are crimson, naked, and tuberculated; the white stripe before the eye extends to about one-third the length of the upper eye-lid, while the black stripe beneath it reaches as far towards the ears as the end of the naked red orbits, but there is no vistige whatever of a *second* white stripe. A uniform grass green, but without any gloss, spreads over the whole of the head, neck, wing-

covers and interscapulars; and is likewise extended to the under plumage as far as the breast, beyond which it becomes obscured and darkened with blackish.

It is possible that the white stripe beneath the eye, the absence of which induces us to consider the Senegal Touraco for the present as a distinct species, may be developed in very adult age; but this is mere conjecture; and in the mean time, the absence of this mark and of the red tips to the crest is uniformly the same in five or six individuals we have examined, and will distinguish this from the species figured by Edwards.

Total length about 16 inches; bill from the gape, $1\frac{1}{10}$; wings, 7; tail beyond, $5\frac{1}{2}$; ditto from the base, $8\frac{1}{2}$; tarsus, $1\frac{4}{10}$; middle toe and claw, $1\frac{8}{10}$; lateral ditto, $1\frac{9}{10}$; hind ditto, $\frac{8}{10}$.

CRIMSON-CRESTED TOURACO.

Corythaix erythrolophus, SWAINS.

Crest of the head erect, compressed, red; face, ears, and chin, white; body green; quill-feathers lilac.

Opœthus erythrolophus, *Vieill. Dict. d'Hist. Nat.* xxxiv, 306; *Gallerie des Ois.* Pl. 49, p. 46.—Musophaga Paulina, *Temm. Pl. Col.*, pl. 23.

OF this rare and most lovely bird we have never yet seen a specimen, but as no doubt exists of its being an inhabitant of that part of Africa we are

now illustrating, we have little hesitation in introducing it in this Work, particularly as it is one of those few remarkable birds whose identity, as a species, does not require a personal examination. M. Vieillot, indeed, seems to be the only one who has made his description from the bird itself. M. Temminck has copied this, but without any alledged reason, attempted to set aside the original specific name. Its genus, in fact, is not *Musophaga*, but *Corythaix*, instituted by Illiger in 1811, long before M. Vieillot proposed that of *Opœthus*.

The specimen which was seen by M. Vieillot was alive in Paris, and belonged to Madame Pauline de Ranchoup. It was gentle and familiar, but it did not long survive the change of climate and of nourishment. The substance of M. Vieillot's account may be thus stated:—

The size is not exactly specified, but from the scale expressed upon the place, it appears to be of the general form and dimensions of the last species. The crest is red, composed of a great number of delicate hair-like feathers which are elevated on each side and compressed so as to form a ridge, not unlike that of an antique helmet; this crest is continued to the back of the nape, where the feathers begin to assume the same direction as those of the neck; a large patch of white spreads round the eye, the sides of the head, ears, and chin; the bill is pure yellow, inclining to orange. The eyes are large, red, and very brilliant, and the eyelids have a few purple spots. The general colour of the plumage is

green, inclining to blueish on the body and belly; the greater and lesser quills are of that peculiar rich lilac or purple-red so prevalent in this genus; the feet are greyish-black, and the tail is rounded.

It appears that the figures given by Vieillot and Temminck were both taken from the same individual, yet in the first the crest is conspicuously edged with white, a character entirely omitted by the second; which of these is correct, we have no means of ascertaining.

Having now enumerated all those birds belonging to the typical or Conirostral tribe of the Perchers, which we can personally vouch to be natives of Western Africa, we shall at once proceed to the sub-typical or Dentirostral tribe, which, as most of our readers already know, represents the rapacious order; many of the species living upon small birds, and all upon some part of the animal creation.

WOODCHAT SHRIKE.

Lanius rufus, BRISSON.

Front, ears, sides of the neck, and interscapulars, black; head and neck above rufous; spot behind the eye, scapulars, wing-spot, rump, and under plumage white.

Lanius rufus, *Brisson, Ornith.* ii, p. 199; *Pl. Enl.* 9, fig. 2.—Lanius rutilus, *Latham, &c. Vieill. Ency. Meth.* 727.—La Pie-grische Rousse, *Le Vaill. Ois. d'Af.* ii. pl. 63.—Woodchat Shrike of authors.

IT is only after the most minute comparison of two Senegal specimens with others from the continent of Europe, that we are persuaded of their specific identity with the well known Woodchat of our own islands. It is therefore clear that this is one of those migrators which annually quit the scorching regions of Africa for the more cool temperature of Europe. This fact, indeed, we know from personal research, having frequently shot the Woodchat in Sicily during the month of May, when that island becomes, for a short time, the temporary residence of those numerous species which come from the opposite coast. Of all these, however, five only appear to extend their range very far southward. Two of these, the present and the *Lanius collurio**, occur through the whole length of Africa; the others are the common bee-eater, the hoopoe, and the golden oriole.

* Le Vaill. Ois. d'Afrique, ii. pl. 64.

To describe a bird so well known would be superfluous. Yet the young males, in their different stages of developement are so unlike the adult, that many ornithologists might mistake them for a separate species.

In the first stage there is no black whatever upon the front or ears, both the first being tinged with light brown mixed with dirty white, while the ears and the back are grey-brown. The pure white scapulars of the adult are here cream colour, as are also the edges of the covers and the rump-feathers. The under parts are also yellowish white, with distinct squamulate lines on the breast and its sides. All the tail-feathers are strongly tipt with white; there are no black spots on the two outer feathers. Perhaps this is the female plumage*.

In the next change of plumage there are black spots on the front, mingled with dirty white, but placed behind the white band which now appears close to the nostrils; the ear-feathers and the back assume a dark brown hue, mixed with black feathers; the rufous is deeper on the neck, and the scapulars, &c. are whiter. The tail resembles the adult excepting the outermost feather which has only a cluster of little transverse black spots, instead of a single large one; the bill and legs are still pale, but the lines on the breast are nearly obsolete. This last state seems to precede the adult plumage, and both are taken from Senegal specimens.

The attempt to separate this species and *L. col-*

* See also Encyc. Method., p. 728.

lurio from the sub-genus of *Lanius* proper, has been made in ignorance of the typical structure of the latter; and, in our opinion, is sanctioned by no one valid reason, either in natural or artificial classification.

CORVINE, OR LONG-TAILED SHRIKE.

Lanius cissoides, VIEILLOT.

Light brown, striped with blackish; beneath, dusky white with obscure spots; tail long, curvated; bill bright yellow; flanks with a concealed chestnut spot.

Le Grande Pie-grieche, *Le Vaill. Ois. d'Afrique*, ii. pl. 78.—L. cissoides, *Vieill. Encyc. Meth.*, 734, No.24.—L. Corvinus, *Shaw, Gent. Zool.* 7, 2, p. 337.—Corvine Shrike of authors.

IT is difficult to imagine why this bird, which has all the essential characters of a true Shrike, should have been likened by Linnæan writers to a crow; unless, indeed, from its being somewhat larger in size than its immediate congeners. The name, however, not having the right of priority, may be cancelled.

The Long-tailed Shrike was first recorded by Le Vaillant in his Birds of Africa, but he has introduced it without knowing from whence it came, an innovation upon the title of his work, which is very frequent in its early volumes. We can now, how-

ever, record it as an inhabitant of Senegal, where it seems to be not uncommon*.

The ground of the upper plumage is very light fawn or drab, inclining to brownish grey; each feather of the crown, neck, and back having a dark stripe down the middle; on the sides of the head, above the eyes and ears, are whitish tinged with rufous; while the space between the eye and bill, as also the ears, are blackish brown. The scapulars have two marginal concentric black lines round each feather, but the wing-covers have only one, placed just within the extreme margin, which is light-grey; the lesser quills and tertials are the same as the greater wing-covers; but the greater quills are clear ferruginous or diluted rufous, with more or less of their terminal half blackish. The long narrow tail-feathers are like the scapulars, but with the black markings more broken into spots. The under plumage is dirty white mottled with indistinct transverse spots disposed sometimes in pairs, or rather imperfectly divided.

We shall now notice the most remarkable character of this curious bird, and which has been entirely overlooked by all who have hitherto described it. The feathers on the flanks, upon being raised, will be found remarkably long; concealing, as it were, from the eye of the observer, a large patch of very deep and pure chestnut with which the lower half of each feather more or less is

* We have received numerous specimens from Southern Africa, also from the Gambia.—Ed.

saturated, but of which not the slightest vestige can be seen when the feathers are laid smooth. We have little doubt but that this is a distinction of the male sex, and that in the season of courtship these elongated feathers are puffed out on both sides, so as to exhibit this ornamental spot to the female. The bill, unlike any other shrike, is of a bright and pure yellow; the legs are brown.

Total length, 11 inches; bill, from the gape, 1; wings, 4½; tarsus, 1; tail, from the base, 6.

RUFOUS-WINGED SHRIKE.

Telophonus erythropterus, SWAINS.

Above testaceous brown, beneath whitish; wing-covers and quills (externally) rufous; crown, and stripe through the eye, black; sides of the head with a broad whitish stripe.

Le Tchagra, *Le Vaill. Ois. d'Afrique*, ii. pl. 70.—Pie-grieche rousse a tete noir du Senegal, *Pl. Enl.* 479, *fig.* 1.—Lanius erythropterus, *Shaw*, *Gent. Zool.* viii. 2, 301.

THIS is another of the South African Shrikes whose geographic range extends to Senegal, and it seems to be equally common in both regions. Le Vaillant observes, that but for its cry it is very difficult to find, since it frequents only the thickest brushwood and the most dense foliage; such haunts, in fact, are the most productive of its favourite food, which is the larva and pupa of different insects. Its flight is slow, feeble, and near the ground; an imperfec-

tion naturally to be expected from the extreme shortness of its wings, which do not extend beyond the upper covers of the tail, and are much shorter than those below. The tail itself, on the other hand, is long and cuneated, as in all the species of *Telophonus*. So that the size of the bird, although not larger than that of our Lanius Collurio is yet much longer.

The plumage of the adult male is as follows :— The upper part of the head down to just beyond the nape is deep black, which is margined on each side by a broad stripe of white tinged with buff, which commences at the nostrils, passes over the eye, and terminates above the ears ; this is followed by a black stripe, much narrower, which is before the eye and behind it, but does not tinge the ear-feathers ; these latter, with the whole of the plumage above, is light testaceous tinged with grey on the lower back, rump, and middle tail-feathers. The scapulars and tertials are black with a very broad external margin of deep buff or cinereous, while the whole of the wing-covers and outer web of the primaries and secondaries are clear and bright rufous. The four pair of lateral tail-feathers are deep black, more or less tipt with white ; the middle pair and the outer portion of the next are grey with transverse dark shades, resembling bars. The under plumage is entirely white, but tinged with grey on the sides, and with cream colour on the belly, thighs, and under tail-covers.

The female, according to Le Vaillant, is less

PLATE 22.

LARGE GREY HEADED BUSH SHRIKE.

brightly coloured, and has no black on the crown of the head. The tail is considerably rounded, so as to be almost fan-shaped; the inner toe is scarcely shorter than the outer, and is almost free at its base.

Total length, 9; bill, from the gape, 1; wings, $3\frac{1}{2}$; tail from the base, $4\frac{1}{2}$; tarsus, $1\frac{1}{10}$.

LARGE GREY-HEADED BUSH-SHRIKE.

Malaconotus olivaceus, SWAINS,

PLATE XXII.

Larger than a thrush; head, ears, and neck above cinereous; back, wings, and tail olive, with whitish spots; under parts yellow.

Le Pie-greche Blanchot, *Le Vaill. Ois. d'Afrique*, pl. 185.—Lanius olivaceus, *Vieill. Ency. Meth.* p. 730, No. 10.

THIS is the largest of all the African Bush-shrikes yet discovered, and it exhibits in great perfection that superior length of bill by which these birds are distinguished from the true or typical Shrikes; unlike these latter, they prowl about among the thickets and low trees, capturing by surprise such young or sickly birds as are so unfortunate as to come in their way; they have neither the strength of wing or sharpness of claws to enable them, like their more courageous brethren, to dart openly

upon their prey and seize it in their talons. These habits, observed by Le Vaillant in other birds of this genus—which is exclusively African—may be inferred with certainty from a simple inspection of the structure of the bird before us. The wings are short and rounded, indicating a most feeble flight, while the thickness and breadth of the claws, show that they are not at all formed for seizing or grasping any thing but the branches of trees; their great curvature, indeed, giving them an unusually firm grasp of such substances, which is further increased by the connexion of the inner toe to half the length of the outer, producing a great breadth to the sole of the foot.

The size is equal to that of a blackbird; the bill is black, and between that and the eye is a broad white stripe. A mantle of clear slate colour spreads over the head, ears, sides, and upper part of the neck, all the remaining parts above being greenish or yellow-olive; each of the lesser and greater covers, and also the tertials and tail-feathers, is marked at the tip by a cream-coloured spot; half of the greater quills are also edged with the same colour. The wings are not longer than the tail-covers. The under plumage, from the chin to the vent, is bright and pure yellow, deepest on the breast and paler on the belly. The tail is but slightly rounded; the legs pale, and the inner toe conspicuously shorter than the outer.

Total length, $10\frac{1}{2}$; bill, from the gape, $1\frac{1}{2}$; wings, $4\frac{3}{4}$; tail, from the base, 5; tarsus, $1\frac{4}{10}$.

LITTLE GREY-HEADED BUSH-SHRIKE.

Malaconotus superciliosus, SWAINS.

Size of a sparrow. Head, ears, and neck above cinereous; a white stripe above and behind the eye; back, wings, and tail olive with whitish spots; under parts yellow.

INNUMERABLE instances occur wherein the variation of the colour of birds, generally the best indication of species, is nevertheless insufficient to characterize them. The Drongo-Shrikes, of which nearly fifteen species are known, are all clothed in a uniform black plumage; while the gulls and the terns are uniformly white, with light grey on their back and wings. In the present group, however, the only instance of two species being clothed almost precisely in the same colours is in the bird before us and the *Malaconotus olivaceus* just described. Excepting that this has white eye-brows, which the other has not, the colours in both are precisely the same; yet one is no larger than a sparrow, while the other exceeds the size of a thrush. The anatomist, however, will readily detect a difference much more important; for while the first joint of the outer toe is united to the middle one in *M. olivaceus*, this joint is perfectly free in *M. superciliosus*.

To enter upon a detailed account of the plumage of this bird is quite unnecessary, inasmuch as it

cannot be varied from that already given of the greater species; the only difference, as before remarked, in their colours, is the extension of the white *before* the eye, which in this is continued in a stripe *over* the eye, so as to reach as far as the ears; it is then lost in obscure whitish dots or freckles on the sides of the neck: there is also a tinge of yellow on those feathers nearest to the nostrils, which is not seen in the other; the yellow of the tail, particularly on its under surface, as well as on the belly and thighs, is deeper.

Total length, $7\frac{1}{2}$ inches; bill from the gape, $1\frac{1}{10}$; wings, $3\frac{1}{4}$; tail beyond, $2\frac{3}{4}$; from the base, 4; tarsus almost 1.

PUFF-BACKED BUSH-SHRIKE.

***Malaconotus mollissimus*, SWAINS.**

PLATE XXIII.

Above glossy black; beneath white; feathers on the back long, white, and downy; female grey above and fulvous white beneath.

La Cubla, *Le Vaill. Ois. d'Afrique*, ii. pl. 72.—Lanius Cubla, *Auctorum*.

To an ordinary observer there is nothing in the usual appearance of this species entitling it to any particular notice; and yet, upon a closer inspection, it proves one of the most remarkable birds in the

PUFF-BACKED BUSH SHRIKE

whole of its family. All the Bush-shrikes, as their generic name implies, have the feathers on the back unusually long and very soft; but in the one now under consideration, these characters are developed in a most singular way. When the feathers on the back are raised, as they occasionally are, by the bird itself, they seem to form a semicircular tuft of the most delicate and beautifully white down, exactly resembling that of the swan, and as if that part of the body was protected by an artificial tippet. When in a state of repose, this singular appearance completely vanishes, and the feathers repose on each other as in an ordinary bird.

The abolition of topical or barbaric names by so many of our best modern ornithologists induces us to suggest that of *Mollissimus*, as at all events preferable to Cubla, derived, we suppose, from the Hottentot language, but which conveys no meaning whatever to European ears.

The male and female are differently coloured. The first has the upper plumage black, glossy on the head, ears, neck, and interscapulars; but brown on the wings and tail; on the lower part of the back the feathers are white, those on the surface having a grey tinge; the scapulars, with the margins of the wing-covers and quills, are dingy-white; upper tail-covers and middle feathers deep black, the rest brown; the whole of the under plumage is white.

In the female there is no black whatever. All the upper plumage is light grey, palest on the rump,

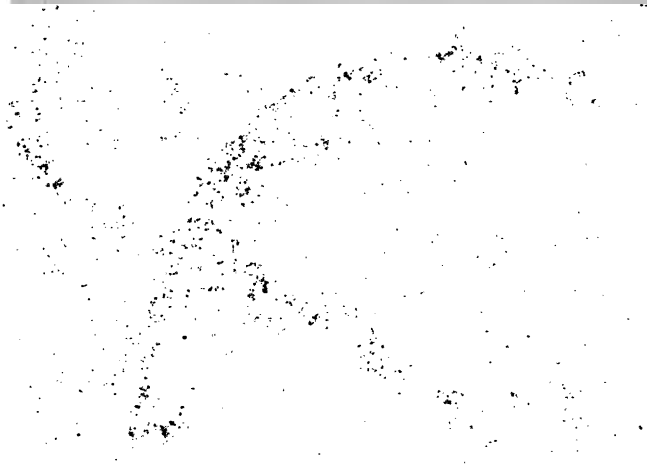
and with dusky stripes on the head; the wing-covers and quills have pale testaceous or whitish margins; the under plumage from the chin to the breast is fulvous or buff, which gradually becomes almost white on the body, belly, and vent; tail and wings deep brown; the back feathers are not near so long as those of the male.

Le Vaillant discovered this species in Southern Africa, where it appears common, but it is not recorded as inhabiting Senegal. It seems a social species, living in small companies, much in the manner of our long-tailed tit, and if one discovers food, it summons the rest to partake of it also. On the approach of a man or an animal, this bird elevates its feathers, repeating incessantly its cry of *châ châ*. Its food is the larva and pupæ of insects, and it builds in thorny thickets.

Total length, $7\frac{1}{2}$; bill, from the gape, 1; wings, $3\frac{7}{10}$; tail, from the base, $3\frac{1}{2}$; tarsus, $\frac{9}{10}$.

PLATE 24.

BARBARY OR YELLOW-CROWNED BUSH SHRIKE.



BARBARY OR YELLOW CROWNED BUSH-SHRIKE.

Malaconotus Barbarus, SWAINS.

PLATE XXIV.

Above glossy black; beneath crimson; crown fulvous yellow; vent and flanks buff, *Zool. Illust.*, ii. pl. 71.

Lanius Barbarus, *Linn. Auct.*—Laniarius Barbarus, *Vieill., Ency. Meth. Orn.* p. 755.—Pie-grieche du Senegal, *Buffon, Pl. Enl.* 56.—Le Gonoleck, *Le Vaill. Ois. d'Afrique*, ii. pl. 69.—Malaconotus Barbarus, *Zool. Illust.*, 2d series, pl. 71.

THIS is one of the most splendid of a small group or section of the Bush-shrikes whose plumage is a union of black with the richest crimson. It has received its name from having been first found on the coast of Barbary; it is, however, one of the commonest and most showy birds of Senegal, and it even extends almost through the whole length of Africa; for Le Vaillant discovered it on the confines of the Namaquois nation, bordering upon the Cape territory. This would appear to be nearly its southern confines, since Le Vaillant mentions his being unable to procure more than three specimens, nor could he ascertain any thing of its manners.

There is a slight difference in structure between this and the type of its genus, inasmuch as the outer toe is only attached to the middle one at the base of the first joint, leaving the joint itself entirely free. It is consequently nearer in the series of

species to the typical Shrikes, and is followed by such birds as *M. erythropterus*, &c.

Size of a small thrush. The upper parts of the head and neck are olive-yellow, leaving the sides of the head, ears, and neck of the same glossy blackness as the rest of the upper plumage; the feathers of the back are very long, remarkably soft, and marked internally with a white spot, only to be seen when they are lifted up. The under plumage, as far as the belly, is of the richest crimson; the chin having an orange tinge; and the thighs, belly, and under tail-covers clear buff; the wings are shorter than the under tail-covers, and, with the bill and feet, deep black; the latter, however, have a blueish tinge.

Total length, 9 inches; bill from the gape, 1; wings, $4\frac{2}{10}$; tail beyond, $3\frac{1}{4}$; from the base, $4\frac{1}{2}$; tarsus, $1\frac{1}{4}$.

ORANGE-BREASTED BUSH-SHRIKE.

Malaconotus chrysogaster, SWAINS.

PLATE XXV.

Above yellowish olive; head, neck, and interscapulars cinereous; front, eye-brows, and plumage beneath, rich yellow; breast orange.

THIS beautiful little Shrike is not only one of the rarest birds of Senegal, but is one of the most beautiful yet discovered. We have been told that a species of *Vanga* has been recently described very

ORANGE BREASTED BU'L SHRIKE

much resembling this, but ours is as unlike a *Vanga* as it is a *Corvus*, and therefore we esteem it new. The beautiful golden yellow of the under plumage, especially the orange of the breast, renders it very conspicuous.

Of its habits unfortunately we know nothing, but its structure gives some intimation of what they are. Like the other species of *Malaconotus*, the wings are short and rounded; thus proving that the birds of this genus do not fly at or pursue their prey in the manner of the true Shrikes; and yet the shape of the bill, when compared to that of the more typical Bush-shrikes, would lead us to suspect that this organ was used to tear their food. The general structure, however, particularly the great inequality of the lateral toes, shows its intimate connexion to *Malaconotus*.

Size of the common red-backed Shrike (*L. collurio*). Front of the head yellow, extending in a stripe over each eye-brow, but not so far as the ears; from the front to the middle of the back the plumage is clear cinereous or light slate colour, which extends to the ears, sides of the neck, and the space between the eye and bill; all the rest of the upper plumage is bright yellowish olive; the concealed parts of the quills being brown, and the tips of the greater covers, secondaries, tertials, and lateral tail-feathers yellowish white. The whole of the under parts are of a full and bright yellow, of uniform depth, except on the breast, where it deepens into rich orange; the bill and claws are black.

In point of structure, it may be said that this bird is a *Malaconotus*, but with something of the short and gradually curved bill of a *Lanius*. The lateral toes are very unequal, and the claws are neither slender nor acute; the wings reach only to the base of the tail.

Total length, $7\frac{1}{2}$ to $\frac{3}{4}$; bill from the gape, $\frac{7}{10}$; from the front, $\frac{1}{2}$; wings, $3\frac{5}{10}$; tail from the base, $3\frac{1}{2}$; tarsus almost 1.

WHITE-PLUMED SHRIKE.

Prionops plumatus, SWAINS.

PLATE XXVI.

Above glossy black; beneath white; wings with a longitudinal white stripe; head, crest, and neck white with a grey nuchal collar; eyes encircled with a naked yellow skin.

Le Geoffroy, *Le Vaill. Ois. d'Afrique*, ii. pl. 80, 81.—Lanius plumatus, *Shaw, Gent. Zool.* viii. 2. p.—Prionops Geoffroii, *Vieill. Ency. Meth.* 754.

EVERY family of birds—we may even say every genus—contains one division, which puts on some characteristic of the swallow tribe; or in scientific language, is a representation of the fissirostral and natatorial type of nature. The genus now before us appears to hold this station in the circle of the Bush-shrikes, from all of which, independent of

Swainson del. Lizars

WHITE PLUMED SHRIKE

many other distinctions, it differs in the great length and expansion of its wings. This is one of the most certain indications of the type in question; and we find that the longest winged birds are the swallows, the terns, and the frigate-pelicans. Another singular feature in the bird before us is the bristles at the corner of the mouth, and the stiff feathers which advance forward and defend both the front of the head and the base of the bill. There must be something very peculiar in the economy of the bird to require such a defence, for nature has repeated it in the *Dasycephalæ* and several other fissirostral types of the perchers. How much is it to be regretted, that while we are perpetually receiving numerous specimens* of such birds as these from their native regions, they should be unaccompanied by the slightest intimation of their habits or manners.

Le Vaillant, who described this singular bird from a stuffed specimen in one of the French museums, conjectures that it lives upon the ground and picks up worms in the same manner as our starlings. The structure of the feet, however, (never attended to in those days) is entirely against this theory; they are obviously adapted for the sole purpose of grasping, but with unusual tenacity, the branches of trees. The soles, as in all such birds, are small, the claws very broad, but un-

* The Editors of Griffith's Animal Kingdom speak of this as an excessively rare species, and lament the departure of M. Bullock's specimen! whereas it is one of the most common and well known birds of Western Africa.

usually hooked, and the hinder toe, as in the Swallow Shrikes or *Dicrurinæ*, very long. Indeed, as no fissirostral types are crested, it may be even questioned whether this genus does not actually enter into the circle of the Swallow Shrikes; in which case, by viewing it as the rasorial type of that division, we can not only account for its length of wing, but also for its remarkably plumed crest. Waving, however, such a critical distinction, it is plain that *Prionops* connects the *Thamnophilinæ* and the *Dicrurinæ*.

Deep black glossed with blue, and pure white, are nearly the only colours of the plumage. The head and neck, as far as the shoulders, are pure white, excepting a nuchal band of grey, which forms a half collar at the back of the neck and extends round the margin of the ears. There are two broad white bands on the wing; one across the ends of the greater covers, and another running longitudinally on the exterior of three of the lesser quills. The greater quills have another white bar, placed in an oblique direction on their inner webs only, so as not to be seen when the wing is closed, and all the quills, more or less, are tipt with white. The tail is long, slightly rounded, and of the same kind of black glossed with green as the wings, but the outer-feather on each side is pure white, the next is half black half white, and the others tipt only with white. The back feathers are not much lengthened, and the white of the under plumage is quite pure.

The naked skin surrounding the eyes is formed precisely like that of the genus *Perspicilla;* its outside is scalloped, and it encircles the eyes like a pair of spectacles; both this and the feet are bright yellow. The inner toe is not much shorter than the outer one, but this latter is connected to the middle toe at its base, while the other is free.

Total length, 9 inches; bill, from the gape, $1\frac{1}{10}$; wings, 5 (extending to near the middle of the tail); tail, from the base, $4\frac{1}{4}$; tarsus, 1; hind toe and claw, $\frac{7}{10}$; inner ditto, $\frac{6}{10}$; middle ditto, $\frac{8}{10}$.

WHITE-BODIED CATERPILLAR-CATCHER.

Ceblepyris pectoralis, SWAINS.

Above cinereous; beneath, from the breast, pure white; female with the chin white and the breast paler.

Graucalus pectoralis, *Jardine & Selby, Ill. of Orn.* pl. 57.

THE Ceblepyrinæ, or Caterpillar Catchers, constitute the most aberrant* division of the family of Shrikes; they are entirely confined to the warm latitudes of the old world and of the Australian range. The birds to which they are analogous, in Europe, are the *Orioles;* both seek their food in the thick foliage of lofty trees, and both have the same general con-

* That is, the most distant from the type, which is here the genus *Lanius.*

formation; but the bill of these is considerably depressed. As representing the *Glires*, the greatest number of the species are of a mouse colour, while their analogy to the hedgehogs is shown by a peculiarity in the structure of the feathers almost unique in the class of birds. Upon pressing the fingers against the feathers of the rump and back, it seems as if they were intermixed with little spines or prickles, from which circumstance the French have termed them *Echenilieurs*. The curious reader will find this singular formation explained at some length elsewhere*.

The most typical examples of this singular race inhabit New Holland; to them we retain M. Cuvier's original name of *Ceblepyris;* they are known by their superior size—some being nearly as large as magpies—and by the great length of their wings, which are pointed and reach to the middle of the tail. The other group—that M. Vieillot's name should not be lost—we denominate *Campephagæ*, it contains birds smaller in size and differently coloured; the wings are short and rounded, and the rictus, or mouth, is furnished with a few stiff bristles, indicating that they have some of the habits of true flycatchers. Between these two groups, but more closely allied to the first than to the last, comes the species now before us. As it is the only one yet known having a decided white under plumage, it is easily recognised.

Size of a starling; but the tail makes it much

* North. Zool. ii. 129.

longer. All the upper part of the plumage is of a delicate light grey, which slightly margins the true and spurious quills, which are black: the fore part of the neck and its sides, the ears, and as far as the breast, is entirely grey; much darker, in the male, than the upper plumage, and ending abruptly on the breast where it forms a curve and becomes almost black; all the rest of the under parts are pure white. The female differs in having the breast like the back, softening off on the chin and on the body to white. The tail is black, the middle and lateral feather on each side grey.

Total length, 10; bill, from the gape, 1; wings, $5\frac{1}{2}$; tail beyond, $2\frac{1}{4}$; from the base, 5: tarsus, $\frac{9}{10}$.

CRIMSON-SHOULDERED CATERPILLAR-CATCHER.

Campephaga phœnicia, SWAINS.

PLATE XXVII. (Male.)—PLATE XXVIII. (Female.)

Glossy blue-black, shoulders crimson; *Male.* Above brown, with black bars tipt with white and yellow margined quill-feathers; beneath white with black spots; *Female.*

Ampelis phœnicia, *Latham Synop.* 146, 10, male.—Red-winged Chatterer of authors, the male.—Turdus phœnicopterus, *Pl. Col.* 71, the male.

THE difference between the sexes of this little known species is so remarkable, that but for the proof we can adduce of the fact, their identity could scarcely have been credited. No two birds, in short, can be more differently coloured; and it is therefore not surprising that their scientific history is involved in confusion. Into this, however, we shall not enter; it will be sufficient to observe, in this place, that in the male we may identify the old *Ampelis phœnicia* of Linnæan writers, and the new *Turdus phœnicopterus* of M. Temminck, to neither of which genera it has any connexion. While the female has been mistaken by all writers for the *Echenilleur jaune* of Le Vaillant, a bird which again is not a distinct species, but the other sex of the *Echenilleur noir* of the same writer. We make this statement from having had an op-

CRIMSON SHOULDERED CATERPILLAR CATCHER
Male

Swainson del.

Lizars sc

CRIMSON SHOULDERED CATERPILLAR CATCHER
Female

portunity of verifying the fact by the same proof as we now advance for this species, namely, a young bird, in the season of moulting, and which is now before us, wherein about half the plumage of the male is intermixed with that of the female; thus setting the question completely at rest.

The male, in its perfect adult plumage, is really a beautiful bird; it is entirely of a rich glossy blue-black except the shoulder and lesser wing-covers, which are of the most vivid crimson; at the angle of the mouth there is a narrow marginal projecting skin, which in the living bird was probably red, and would thus bear an analogy to the lips of quadrupeds. The feathers on the lower part of the back and rump are remarkably thick set, and feel prickly.

The ground colour of the female, on the contrary, is brown, each feather above being crossed at the end with a black bar and a white one, the latter being external and wanting on the rump. The quills are nearly black, broadly edged, externally and internally, with clear and fine yellow; the edges of their covers, but not the tips, being narrower. The tail is brownish black, lighter on the middle feather, and the two external pairs are edged and tipt with yellow. The under plumage is white, with a crescent of black at the end of each feather; inner wing-covers fine yellow; bill and feet brown, or blackish.

Total length, 8; bill, from the gape, $\frac{8}{10}$; wings, 4; tail beyond, $2\frac{1}{2}$; from the base, 4; tarsus, $\frac{7}{10}$.

PALE-WINGED DRONGO.

Dicrurus canipennis, SWAINS.

Glossy blue-black; tail forked; quill-feathers with their inner-shafts light-grey-brown, their internal surface greyish white; the third quill the longest.

THE Drongo-Shrikes were formerly classed with the flycatchers, because, like them they seize their food, which consists entirely of insects, upon the wing, much in the same manner as do the swallows. All the species are restricted, in their geographic range, to the warm latitudes of the old world, and what is very singular they are all of a black colour. Hence the older ornithologists, who were not accustomed to pay much attention to variations of structure, considered the greater number to be mere varieties of one species. Le Vaillant, however, with his usual discrimination, was the first writer who rectified this error; and he not only described all that were then known to him, but collected them into a separate genus by the name of Drongo. We may retain this appellation in part, and yet adopt the more classic one of *Dicrurus* given to the same birds by M. Vieillot, a name which, although not prior to that of *Edolius*, is so peculiarly appropriate, from expressing the double or forked-tail

seen in the majority of the species, that we shall now adopt it. An interesting account of the manners of these birds, too long to be here repeated, will be found in Northern Zoology, ii. page 134.

We cannot determine this species from any of the descriptions in Le Vaillant, with which we have carefully compared it. We shall therefore consider it as new, although it is by no means uncommon. Its chief distinction, as expressed in the specific character, is in the very unusual paleness of the *inner* webs of the primary quills, which, upon their upper surface, are of the very lightest brown; they are palest at the base, and gradually become darker towards their tips, while their *inner* surface, or that next to the body, is so light, that but for a greyish tinge, they would be quite white. The plumage is glossy blue-black, but without any metallic reflections; the depth of the fork of the tail is three quarters of an inch, and the two divisions divaricate considerably; the third and fourth quills are largest, and the second and seventh are equal.

Total length, $9\frac{1}{2}$; bill, from the gape, 1; wings, $5\frac{5}{10}$; tail beyond, $2\frac{1}{4}$; ditto from the base, $4\frac{1}{2}$; tarsus, $\frac{6}{10}$.

EVEN-TAILED DRONGO.

Dicrurus atripennis, SWAINS.

Entirely glossy blueish-black; tail almost even; inner web of the quill-feathers very deep black.

THREE specimens of this species, which we consider as altogether new, were sent from Sierra Leone with the Bristle-necked thrushes here described, so that we have no doubts whatsoever as to its being a species peculiar to Western Africa.

It is almost impossible, in a group of birds possessing so few marks of distinction among the species as the present, to find specific names for each which will express something definite and peculiar. We have therefore been obliged to name this from a circumstance not very expressive, yet calculated in some measure to identify it.

The only species with which this may be confounded is the *D. remifer* in a young state, where the tail is also even. In this, however, there is a *very slight* indication of the forked structure in two out of the three specimens. So slight, however, that there is only two-tenths of an inch difference between the length of the middle and the outermost tail-feathers. All the tail-feathers are truncated at their tips, but having the shaft prolonged

WALKING DRONGO SHRIKE

into a little point, terminating like a hair; all these feathers are narrow at their base, and broad as they approach the tips; so that the tail appears divaricated, although the actual depth of the fork is so slight.

The whole of the external parts of the plumage are deep black, glossed with steel-blue; the inner web of the quills, however, are of a very deep velvety black; thus offering a singular contrast to the species last described. The frontal bristles advance beyond half the length of the bill, but they are not very compact. The inner wing-covers are glossed, and the under surface of the tail and quill-feathers are deep black.

Total length, 9; bill, from the gape, $\frac{9}{10}$; wings, $4\frac{5}{10}$; tail, from the base, 4; tarsus, $\frac{6}{10}$.

WALKING DRONGO.

Melasoma edolioides, SWAINS.

PLATE XXIX.

Entirely brownish black.

OF this unattractive but very remarkable bird, we have already spoken in the *Fauna Boreali-Americana* or *Northern Zoology*, p. 151. At that time we were ignorant of its native country, but no less than three specimens have since fallen under our

observation, imported direct from Senegal, so as to leave no doubt as to the propriety of its entering into our present volume.

The ornithologist will derive much instruction and interest from possessing this bird, and from comparing it with any one of the true Drongo Shrikes. The bills of both are formed upon the same model; but this is considerably smaller; the rictal bristles are proportionably equal, but in this type those which are in front are not directed over the nostrils. The wings of both are of the same general structure, but in *this* they are considerably shorter, and reach but a little way beyond the base of the tail, while this latter member, although equally long, is considerably rounded. This partial resemblance between the two genera extends to the feet; the hind-toe of both are alike, and fully developed; but in *Dicrurus* it is as long, while in *Melasoma* it is much shorter, than the tarsus. In both, again, the outer toe is connected to the middle, as far as the first joint, but in *this* the two external toes are equal, and the middle one considerably *longer* than the hinder; whereas, in *Dicrurus* the inner toe is shortest, and the middle one nearly *equal* to the hinder. From this comparison we gather the fact,—highly important to our view of the natural arrangement of this unique form,—that by the length of the foot and the structure of the toes, *Melasoma* is enabled to walk upon the ground; a faculty which we know, both from analogy and collateral evidence, is not possessed by the Drongo Shrikes.

As to the plumage, nothing can be added to the specific character. The entire bird is of a deep and uniform brownish black, without any variation of tint; the bill and legs are also the same.

Total length, $8\frac{3}{4}$; bill from the gape, $\frac{8}{10}$; wings, 4; tail beyond, 3; from the base, $4\frac{1}{2}$; tarsus, $\frac{9}{10}$; hind-toe and claw, $\frac{7}{10}$; middle ditto, $\frac{9}{10}$.

YELLOW-THROATED SHORT-FOOT.

Hæmatornis flavicollis, SWAINS.

Olive-brown; paler beneath; chin and part of the throat pale yellow.

WESTERN AFRICA, and the same parallels of latitude in equinoctial India, abound in the *Brachipodinæ*, or short-legged thrushes; so strictly do they appear confined to these limits, that not one has yet been discovered to our knowledge in the New World, or even in the warm latitudes of Australia. We have already given many details on this group, and characterized what appeared to be the five leading variations or sub-genera*. One of these we named *Hæmatornis*. Nearly about the same time the same name was proposed for what was considered a genus of *Falco*; but this supposed genus was not characterized until long after the appearance of our prior definition. As it is an admitted law of nomencla-

* North. Zool. ii. p. 485.

ture, that undefined names have no anthority, we of course retain *Hæmatornis* to the group before us, on the double ground of priority of definition and of demonstration.

The chief distinction between *Brachypus* and *Hæmatornis*, is in the length of the tarsus; in the first, this part is just equal to the hind-toe and claw; whereas, in the latter, it is decidedly longer; thus evincing an evident tendency to unite with *Crateropus*, on the opposite side of the circle of the *Merulidæ*. It is not surprising, therefore, that M. Temminck, and other absolute dividers, who believe that all natural genera are cut off from mutual connexion, should have been sorely perplexed with these aberrant thrushes; and they have, consequently, given such extension to their artificial genera, *Turdoïdes* and *Ixos*, as to make them contain almost any thing and every thing. It would have been far better, even on their own views, to have left the whole under the Linnæan genus *Turdus*. Besides, the barbarous construction of those two names, renders them quite intolerable, even in an artificial system.

Our present species of *Hæmatornis* is coloured something like the bristle-necked thrushes of Africa (*Trichophorus*). It is nearly as large as the song-thrush; but the wings are shorter and the tail longer. The upper plumage is dark and uniform olive brown; the feathers of the crown, ears, and sides of the neck having grey borders, and the outer margins of the quills, as well as the inner wing-

covers, inclining to buff. The chin, and half-way down the throat, is pale straw coloured yellow, which graduates on the breast into a fulvous brown, but little lighter than the back.

Total length, 10 inches; bill from the gape, $1\frac{1}{10}$; wings, $4\frac{3}{4}$; tail beyond, $2\frac{1}{2}$; ditto from the base, $4\frac{3}{4}$; tarsus, 1; hind-toe and claw, $\frac{7}{10}$; middle ditto, 1.

AFRICAN BRISTLE-BILL.

Dasycephala syndactyla, SWAINS.

Olive-brown; beneath pale yellow; tail rufous; wings with the four first quills graduated; toes syndactyle.

THE very remarkable bird we are about to describe is, to the ornithologist, one of the most interesting contained in this volume. Although slightly mentioned on a former occasion*, it has never yet been described; and indeed the only specimen at present known is in our museum. It was received from Sierra Leone, together with the other species introduced in this volume, many years ago, by Mr. Bullock, at whose sale we purchased the whole.

There cannot, in our opinion, be a doubt that this bird is one of those connecting links by which the genera *Dasycephala* and *Trichophorus* are united,

* North. Zool. ii. p. 486.

It exhibits, in short, some of the typical characters of each, and yet it is so equally connected to both, that, for the present, we cannot determine to which group it strictly belongs. To *Dasycephala* it is related by its lengthened, straight, and abruptly hooked bill; by a few incurved setaceous feathers and hairs over the nostrils; by the length of the tarsus and of the middle toe; and, by the great inequality between the lateral toes. On the other hand, its affinity to *Trichophorus* is shewn in its compressed bill, the structure of its wings, and its geographic station. It is usual to term a species possessing such a union of characters as those just described,—a sub-genus, seeing that it does not precisely agree with the definitions of any group hitherto named. But this mode of proceeding may be carried too far; a little consideration will convince those who adopt it, that in every natural group there *must* be osculent or aberrant species, without which every genus would be isolated. If there is no approach in structure from the species of one group to the species of another, there would not be that almost imperceptible gradation in nature which every one sees and acknowledges. Some limits, therefore, must be put to the creation of sub-genera, and every effort should be made, in the first instance, to ascertain the station of such forms among their congeners, and this can only be done by extensive analysis. In the present instance *Dasycephala*, according to the views we have elsewhere published, is itself a sub-genus, and such also is *Trichophorus;* it consequently

follows that any intervening forms, between these two, must be looked upon only as aberrant species either of one or the other.

Having already noticed the chief peculiarities of the bird before us, a few other particulars will suffice. The form of the bill is precisely that of *Dasycephala**, except that the sides, and even the base, are *com*pressed, instead of being *de*pressed; the bristles of the mouth are two-thirds the length of the bill and are very strong; while none can be distingushed (as in *Trichophorus*) on the back of the neck; the wings are moderate but much rounded, the four first quills being graduated. The middle claw is much longer than in *Dasycephala*, and the *two* first joints of the outer toe are connected to it; the claws are broad, much curved, and are obviously adapted alone for perching; the tail is rounded; the tarsi smooth and pale, with the lateral and posterior scales entire.

The colouring of the plumage is simple and quite resembles that of *Brachypus (Hæmatornis) flavicollis*. The ground colour of the upper plumage is olive-brown; the wings have a tinge of ferruginous, the tail and its upper covers are bright rufous, and the ears are as dark as the crown. All the under parts, from the chin to the vent, are straw colour, tinged with olive on the sides of the breast and flanks; the bill is horn colour; pale on the under mandible and on the sides of the upper.

* The species used for this comparison is *D. rufescens*, the type of the group.

Total length about $9\frac{1}{2}$; bill from the front, $\frac{8}{10}$; wings, $4\frac{1}{2}$; tail from the base, 4; tarsus, 1; hind-toe and claw, $\frac{5}{10}$; middle ditto, $\frac{8}{10}$.

OLIVE BRISTLE-NECK.

Tricophorus olivaceous, SWAINS.

Olive-green; chin and part of the throat pale yellow.

THE three birds we are about to describe, although not attractive in their plumage, are yet remarkable for the very singular peculiarity which gives rise to their name of Bristle-Necks, or Bristle-necked Thrushes. The nuchal bristles, in nearly all those birds which possess them, are so short and slender as to escape detection, unless the adjoining feathers are carefully raised and examined; but, in the sub-genus before us, these bristles are so much developed, and are so long, that they often extend more than an inch beyond the feathers of the neck. It is not known for what especial purpose these bristles are intended. We doubt, however, the accuracy of the assertion, that they are found in both sexes; since we believe they are connected with the process of copulation, and that they are only possessed, at least in their greatest developement, by the females.

The genus *Trichophorus* was proposed by M.

Temminck for these birds, the first knowledge of which he derived from some duplicates he received from us during his visit to England in 1817 or 1818. We have reason to think, also, that the "five" species* he mentions, as "already known," are what he took to be the five species in our possession, for he has only published that one which he received from us. The other two genuine species of *Tricophorus* are described here, as we believe, for the first time.

The species at present before us, although resembling *T. strigilatus*, in having yellow on the throat, is yet readily identified, having the crown of the head and the ears of the same olive-green colour as that on the back; the ears are the same, with a pale line down the shafts; the body beneath, with the sides of the neck and breast, are also olive, but with a yellower tinge, somewhat paler in the middle; the chin and greater part of the neck is straw-coloured yellow, clear but pale, without any white intermixed, and there is no grey whatever upon the plumage. The tail has a shade almost imperceptible of rufous, similar to what is seen in the two following species. The nuchal bristles are much developed, the longest measuring more than an inch.

Total length, 7; bill from the front, $\frac{7}{10}$; wings, $3\frac{1}{2}$; tail beyond, 2; ditto from the base, $3\frac{1}{4}$; tarsus, $\frac{8}{10}$; hind-toe and claw, $\frac{6}{10}$.

* These other two are probably our *Dasycephala syndactyla*, *Hæmatornis flavicollis*, and the three *Tricophori* here described.

WHITE-THROATED BRISTLE-NECK.

Tricophorus gularis, SWAINS.

Above olive; beneath, in the middle of the body, yellow; crown, blackish brown; ears, grey; chin and throat, pure white.

THE pure white on the chin and throat of this hitherto unrecorded species distinguishes it, at first sight, from the two preceding. Its size is intermediate, between that of *strigilatus* and *olivaceus*, being less than the former and larger than the latter, and in all three the feathers on the throat are equally developed*.

The colouring has a general resemblance to that of the two species already described, and yet there are slight although distinctive variations. The upper part of the head is dark sepia brown, which assumes a greyish tinge on the ear-feathers, the shafts of which are paler; the chin, and halfway down the throat, is pure white; the breast and middle of the body clear but pale yellow, and the sides and flanks are of the same olive-green as the

* It is quite clear that Professor Temminck had not examined the other species he alludes to, for he states that this character is peculiar alone to his *T. barbatus*, whereas it is general in all the three species.

back; the wings and tail are the same, but darker, while the tips and inner margins of the lateral tail-feathers are pale yellowish, similar to those of the other species; the space between the eye and bill is light grey, and the inner wing-covers yellow.

Total length near 8; bill, from the front, $\frac{6}{10}$; wings, $3\frac{6}{10}$; tail beyond, $1\frac{1}{2}$; ditto from the base, $3\frac{1}{2}$; tarsus, $\frac{8}{10}$; hind toe and claw, $\frac{6}{10}$*.

STRIPE-BREASTED BRISTLE-NECK.

Trecophorus strigilatus, SWAINS.

Olive, striped on the breast and body with grey; chin and part of the throat yellow, obscurely striped with white; crown dark, varied with olive and grey.

Tr. barbatus, *Pl. Col.* pl. 88.

CONSIDERING that in a group of birds like this, where the species so closely resemble each other, their specific names should more particularly be appropriate, or at least not calculated to lead into error, we have been induced to describe this under the name of *strigilatus* rather than that of *barbatus;*

* The bird here described by Mr. Swainson seems to be the same with the *T. tephrogenys*, Plate 127 of "Ornithological Illustrations." "*T. supra castaneus, genis griseis, gula alba, pectore abdomineque mediis flavescentibus, capite supra rufescente, rictu valide vibrissato.*" The specimen there described was purchased, and was supposed to come from India; we have since received it from Sierra Leone.—W. J.

for although M. Temminck, who had his specimen from us, states that it is distinguished from its congeners by unusually large feathers on the throat, and therefore calls it *barbatus*, this statement, nevertheless, is by no means correct, for these enlarged feathers are equally conspicuous both in *T. olivaceus* and *gularis*. The name, therefore, being founded in palpable error, appears to us not fit to be retained.

The chief distinction of this bird is the striped plumage of the throat and breast; for although the chin and part of the throat seems to be pure yellow, yet it will be found that each feather is almost white in the middle. M. Temminck has not noticed this, and his description is so imperfect in other respects, that we shall now endeavour to amend it.

Size of a small thrush. General colour of the back, wings, and tail dark olive-green, with a very slight tinge of ferruginous on the latter part. Head and neck dark brown, each feather having a shade of light grey around it; this brown gradually becomes olive on the interscapulars and the remaining parts of the plumage, where there is no grey whatever. The chin, and a little way down the throat, is pale or canary-coloured yellow; the feathers being somewhat larger than usual, but not particularly so, and each are so pale in the middle as to be almost pure white; the ears are grey-brown, each feather being striped with dusky yellow; the lower part of the neck, the breast, and nearly the whole of the body is olive, nearly as dark as the

back, but each feather is grey in the middle, and the shafts are of a still lighter grey; the flanks and belly are like the back, but the under wing and tail-covers, as also the under side of the tail are all paler and more fulvous; the tips of the tail-feathers are pale fulvous, but without any defined spot or mark.

The nuchal bristles do not spring, as they have been represented by M. Temminck,* from the crown of the head, but from the nape of the neck, and appear to be arranged in two fascicles, one on each side, each containing three or four of unequal length; the longest measuring about one inch and a quarter.

It may here be remarked that not only this, but the other two species now described, have the feathers on the crown of the head equally if not more lengthened than those on the chin and throat, so that they form, in the living bird, a decided crest, capable of being raised or depressed at pleasure.

Total length, $8\frac{1}{2}$; bill from the front nearly $\frac{7}{10}$; wings, $4\frac{8}{10}$; tail beyond, $2\frac{1}{2}$; ditto from the base, 4; tarsus, $\frac{8}{10}$; hind-toe and claw, $\frac{6}{10}$.

* *Pl. Col.* pl. 88.

CLIMBING LEAFLOVE.

Phyllastrephus scandens, SWAINS.

PLATE XXX.

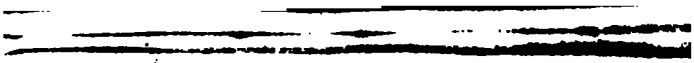
Olive above; fulvous white beneath; crown, ears and front, light cinerous; quills, rump and tail, ferruginous; frontal feathers short, rather stiff, and advancing on the bill; claws broad and much crooked.

LE VAILLANT, whose remarks on the habits of the birds he procured in Southern Africa are always interesting and often valuable, describes, under the name of *Le Jaboteur**, a very singular thrush, plain in colour, but curious in its economy. It lives in little parties of five or six, which he always found busily employed in exploring the ground under close and entangled thickets, turning over the dead leaves, both with the bill and feet, in search of worms and ground-insects; each individual of the party keeping up a querulous note of its own, different from that of each of its companions. These birds were rarely seen to perch; while, from being almost hid in such situations, and the colour of their plumage so exactly agreeing with that of the withered leaves around them, they were very difficult to procure.

The bird we are now to describe is certainly

* Ois. d'Afrique, ii. pl. 112, fig. 1, (Ph. terrestris, Swains).

CLIMBING LEAFLOVE



related to the *Jaboteur* of Southern Africa, but it differs sufficiently in the structure of its feet to make us believe it is rather a scansorial than a terrestrial bird. In the long bristles of the gape we have one of the characters of the *Trichophori*, or bristle-necked thrushes, and of *Dasycephalus;* while the affinity of this most interesting species to the latter is shown by the frontal feathers being directed forwards, as if to protect the base of the bill. Without this union of the characters belonging both to *Dasycephalus* and *Phyllastrephus*, the two genera would be dislocated; with it, their union, in our opinion, may be pronounced perfect. To the scientific ornithologist, in short, this is the most interesting bird contained in our volume.

The chief peculiarity is in the feet; as the bill, wings, and tail are completely those of the *Jaboteur*. The tarsus, although it exceeds the hind toe, is comparatively rather shorter than in *P. terrestris*, but more robust; the middle toe is also shorter, so that it becomes of the same length as the hind toe, a conformation which at once proclaims its scansorial use. This is further confirmed by the superior strength, curvature, and breadth of all the claws, so that at first sight the bird might be taken for an American *Anabates*. The rictal bristles are more than half the length of the bill, but the nostrils are nearly naked. The frontal feathers, as before observed, are short, compact, rigid, directed forwards, and repose upon the base of the bill; the lateral scales are entire, the anterior nearly so, since,

although there are four divisions, the sutures are quite smooth; the tail is semi-transparent and rounded, and of that peculiar texture and form which belongs to *Anabates*.

The immediate passage from a terrestrial to a climbing species of the very same sub-genus can be proved natural, both from analogical reasoning and from undeniable fact. The manners of *Ph. terrestris*, as described by Le Vaillant, are those of a rasorial bird; a hen, for example, which scratches and throws about leaves, straw, &c. "both with its bill and feet," while searching for its food. This is the peculiar habit of rasorial types, such as we see in *Phyllastrephus terrestris*, and every one knows that the scansorial and the rasorial forms are but representations of each other.

Nor are we unprepared with proofs of this theory drawn from recorded facts. The *Accentor modularis*, or hedge-sparrow, is a counterpart of *Ph. terrestris;* both live in the same way, and seek their food on the ground under thickets and among fallen leaves; and both also are followed by species which are absolutely scansorial. The *A. alpina*, as Dr. Thackary observed*, can creep round the buttresses and projections of a building "very much in the manner of a tree-creeper." This scansorial power, we have not the slightest doubt, belongs also to our *Ph. scandens*. It is impossible that two cases can be more analogous.

* Communicated through my friend Professor Henslow of Cambridge.

But that this union of the rasorial and the scansorial habits may be rendered perfectly unquestionable, we shall now cite an instance where they are actually united in the same bird! Wilson, in describing the Pine-creeping-warbler, (*Mniotilta pinus*, Swains.*) says, "it runs along the bark of the pines; sometimes alighting and *feeding on the ground*, and almost always, when disturbed, flying up and *clinging to the trunks of the trees;*" and again, "these birds are easily known by their manner of rising from the ground and alighting"—not on the branches, but—"on the *body* of the tree." Here, then, is a bird, belonging to the scansorial sub-genus of *Sylvicola*, which nevertheless feeds also upon the ground like a rasorial type.

It now remains only to describe the plumage of this remarkable species. The upper part of the head as far as the nape is clear cinereous, which becomes paler on the sides and ears and changes to dull white on the chin and halfway down the throat; beyond the nape the colour of the upper part of the neck and back is light olive, as are the wing-covers, but this assumes a buff tinge on the rump and finally becomes clear ferruginous or light cinnamon colour on the tail; the quills are darker and more of an olive-brown, the inner webs being black with a narrow edging of buff on the basal half inside. The under plumage is buff-white, deepest on the flanks and under tail-covers, which almost assimilate to the pale ferruginous of the

* See also Northern Zool. ii. p. 205.

under parts of the tail-feather; the inner wing-covers are like the flanks; the bill and claws are very light, the culmen only being brown; the feet in the dried specimens are discoloured, but they are probably light brown.

Total length, $9\frac{1}{2}$; bill, 1; wings, $4\frac{1}{4}$; tail, from the base, $4\frac{1}{4}$; tarsus, $\frac{9}{10}$; hind toe and claw, $\frac{3}{4}$; middle ditto, $\frac{9}{10}$.

BROAD-TAILED BABBLER.

Crateropus platycircus, SWAINS.

Brown; body beneath paler; head, neck and throat blackish-brown, each feather having a light edge; tail fan-shaped, broad, and brownish-black.

Ixos. plebejus? *Ruppell, Atlas*, pl. 23.

THE Great-footed Thrushes, or Babblers, form one of the chief divisions of the *Merulidæ* or Thrush family; equivalent to that of the short-footed race which we have just left. They are at once known by their very large and robust feet, the equality of the two lateral toes, and the slight curvature of the claws. Their haunts and manners are likewise very different; instead of living entirely among the thick foliage of trees, these birds frequent the ground, chiefly in marshy situations, and seldom perch but among reeds and aquatic shrubs. All the species and subordinate types that have yet been

discovered are from the warm latitudes of the old world; excepting one*, the *Donacobius vociferans*, which is peculiar to America.

Independent of the foregoing characters which separate *Brachipus* from *Crateropus*, the two groups are almost perfectly alike in the shape of their bills and the formation of their wings and tail. The latter, however, in *Crateropus*, is always much larger and broader, while the bill is either entire or very *slightly*, instead of very *deeply* notched.

The bird now before us is the size of an ordinary thrush, with the bill considerably compressed and perfectly entire; the nostrils are naked, and the rictal bristles reach only to the aperture. The tail, although not very long, is fan-shaped and remarkably broad, the feathers measuring nearly one inch across. The feet are very large, and the wings are shorter than the upper covers of the tail.

The whole plumage is of a sepia brown changing to light-grey on the rump, and from the breast downwards, where it is even lighter; the tail, on the contrary, is almost blackish, particularly towards the end, where it is darker than the wings. The ears, space before the eyes, and tip of the chin, are hoary, or grey-white and unspotted, but all the rest of the head, neck, and throat-feathers are dark brown, with a pale edging, which gives to them a scale-like appearance; the belly or vent is inclined to white, and the flanks and under tail-covers to buff. The

* Zool. Illus. ii. pl. 72. See also *D. albolineatus*, d'Orbigny, pl. 12, a second species.—Ed.

chief specific distinction, however, is the dusky white margin of the feathers on the head, neck, and throat, which from their semicircular form have a very peculiar and distinct appearance.

Total length, $9\frac{1}{2}$; bill from the gape, $1\frac{1}{10}$; wings, $4\frac{8}{10}$; tarsus, $1\frac{2}{10}$; hind toe and claw, $\frac{8}{10}$; middle ditto, $1\frac{1}{10}$; tail from the base, $4\frac{1}{4}$.

BLACK-CROWNED BABBLER.

Crateropus reinwardii, SWAINS.

Above grey; beneath paler; wings and tail brown, with shades of transverse darker lines; head and ears black; chin pure white; throat with dusky spots.

Crateropus Reinwardii, *Zool. Illust.* ii. pl. 80.

WHEN we first described and figured this bird in the second series of the Zoological Illustrations, we gave it as a native of India upon the information of the Parisian collectors. Whether this *habitat* may be correct or not we cannot determine, but it is certain that the two specimens we have recently received from Senegal are perfectly the same as that we formerly described.

This species, readily distinguished by the deep black covering of its head and ears, is altogether a larger bird than the *Crateropus platycircus;* the tail is longer, but the feathers are narrower; and

the bill, instead of being perfectly entire, has a small nearly obsolete indenture at the tip of the upper mandible; the legs are longer in proportion, and the claws not so much curved, thus pointing it out as a more typical example.

The ground colour of the general plumage is a light brownish grey, becoming much paler on the under parts, with the wings and tail dark sepia brown. The chin, and about half-way down the throat, is pure white, but all the rest of the head, ears, and nape are of a deep black; the lower part of the throat and breast is light grey, but each feather has a darker stripe in the middle, which gives it the appearance of being spotted. The tail is rather long, broad, and much rounded; and, together with the tertial quills, has an appearance of being crossed by transverse dusky lines, when held in particular lights. The feathers in the middle of the back are lengthened, and are all pure white at their base; the bill is black and the legs pale.

It might be suspected that this was the male of the last species described, but the difference of their respective sizes, and in other points of their structure already noticed, renders this supposition highly improbable.

Total length, $10\frac{1}{2}$; bill, $1\frac{1}{10}$; wings, $4\frac{3}{4}$; tail beyond, 3; from the base, 5; tarsus, $1\frac{1}{2}$; hind-toe and claw, $\frac{9}{10}$; middle ditto, $1\frac{2}{10}$.

It is clearly impossible to identify the two last birds, from the confused mass of descriptions of *Turdi* found in the systems.

BLACK-WINGED BABBLER.

Crateropus atripennis, SWAINS.

Rufous; wings and tail black; head and neck hooded with greyish white, bordered by black; tail short.

ONLY one specimen of this new and remarkable bird has yet come under our inspection, and we therefore conclude it is particularly rare. Its form also, no less than its colours, has some peculiarities. In its general structure it closely resembles the two preceding species; that is, in the shape of the bill, wings, feet, and tail, but the latter member, comparatively, is very short, for it does not extend beyond the wings more than one inch and a half. Hence, at first sight, it seems so closely allied to *Timalia thoracica**, Swains., as even to enter into that genus. The great distinction, however, of *Timalia*, is its remarkably short and rounded wings; so short, indeed, that they barely reach to the base of the tail. In the bird before us, this character does not exist; the wings, although much rounded, and very broad, are quite those of *Crateropus*, and reach to half the length of the tail; the inner toe is also rather shorter than the outer, and the claws (especially the hind one) very broad and fully

* Temminck describes this bird as a *Pitta*, with which genus, however, I consider it has no sort of relationship.

hooked. In *Timalia thoracica*, on the contrary, the lateral toes are of equal length and the claws slender and much less curved. The first of these forms indicates arboreal habits, the second terrestrial. In *this* the bill is less arched above, and the tip notched; but in *that* the latter character does not appear. On these considerations we place our bird in the present group; leaving for future inquiry the question of direct affinity between this and *Timalia thoracica*.

In size this species is rather less than a starling; it is at once known from all its congeners by a greyish-white hood, which completely covers the head, nape, ears, fore part of the neck, and terminates abruptly just above the breast; the space between the bill and the eye is black, and this colour forms a deep shade all round the sides of the hood as just mentioned. The wings, tail, and interscapulars are blackish brown; the rest of the plumage, both above and below, being of the darkest rufous or chestnut, of the same colour, although less bright, as that which tinges the corresponding parts of *Timalia thoracica;* the bill is yellow; the feet brown; and the claws pale. The feathers of the back are remarkably long and soft, much more so than in the bird just mentioned; tail rounded, broad, and soft.

Total length, $8\frac{1}{2}$; bill, 1; wings, $4\frac{1}{2}$; tail beyond, $1\frac{1}{2}$; ditto from the base, $3\frac{1}{2}$; tarsus, $1\frac{4}{10}$; hind-toe and claw, 1; middle ditto, $1\frac{7}{10}$.

ORIOLE BABBLER.

Crateropus oriolides, SWAINS.

PLATE XXXI.

Olive; beneath yellow; white and neck with a black hood; the feathers edged with silvery white, and scale-like.

THE singular bird we are now to describe is very common on the Western Coast of Africa, but seems never to have been found in any other region*. Its structure is so peculiar, that we cannot at present venture to offer any definite opinion on its actual position in the family. It certainly has a closer affinity to the Babblers than to any other group of thrushes, but whether it forms part of that circle, or enters among the Orioles, is very doubtful. It is, indeed, with much hesitation that we retain it under the generic name of *Crateropus*, for its slender and lengthened bill is altogether peculiar. It seems intimately related to *Donacobius*, the only representation of the Babblers in the New World. But for its feet, it might be taken for a *Meliphaga*, while its

* We possess six or seven specimens of this bird (or at least, so far as we can judge from Mr. Swainson's drawing and description, one very closely allied) from Southern Africa. They were received from different collectors, and either one or two specimens from Dr. Smith.—W. J.

ORIALE BABBLER

colours and nest* are those of the Orioles. The minute analysis which is requisite to assign to all these resemblances their due weight, and to explain them, has not yet been entered upon, and we therefore merely allude to them as explanatory of our reasons for not proposing a sub-generic group which cannot be demonstrated. We may here observe, that we can find no description among the hundreds of birds crowded into the Linnæan genus *Turdus*, which will enable us to identify either this or the following species as having been previously described.

The total length of this bird exceeds that of the golden oriole on account of its longer tail, but the body is much smaller and its whole proportions more gracile. The bill is slender, a little curved, and very much resembles that of a *Meliphaga;* the nostrils also are somewhat lengthened, although their structure is that of *Crateropus;* the upper mandible of the bill is entire, the commissure arched, and the margins beyond the base inflected. The wings are very short, and the tail is much graduated. The lateral toes are equal, and the hind one with the claw very large.

The upper plumage is olive-yellow; which extends also to the flanks, sides of the body, vent, and thighs, where it has a more fulvous tinge. The whole of the head and the neck, as far down as the breast, is deep black; all the feathers, except those on the breast, being edged more or less with silvery white, particularly on the ears and upper neck; and this

* See Northern Zoology, ii.

edging produces a scale-like appearance. The middle of the body beneath, the edges of the wings, and the under wing-covers are bright yellow. Bill black; legs pale.

Total length, $8\frac{1}{2}$ inches; bill rather more than 1; wings, $3\frac{1}{2}$; tail, 4; tarsus, 1; hind-toe and claw, $\frac{8}{10}$.

GREATER WHITE-CROWNED ROCK-THRUSH.

Petrocincla leucoceps, SWAINS.

Above brown; beneath and lateral tail-feathers rufous; front, crown, and nape, white; the feathers with a narrow blackish margin.

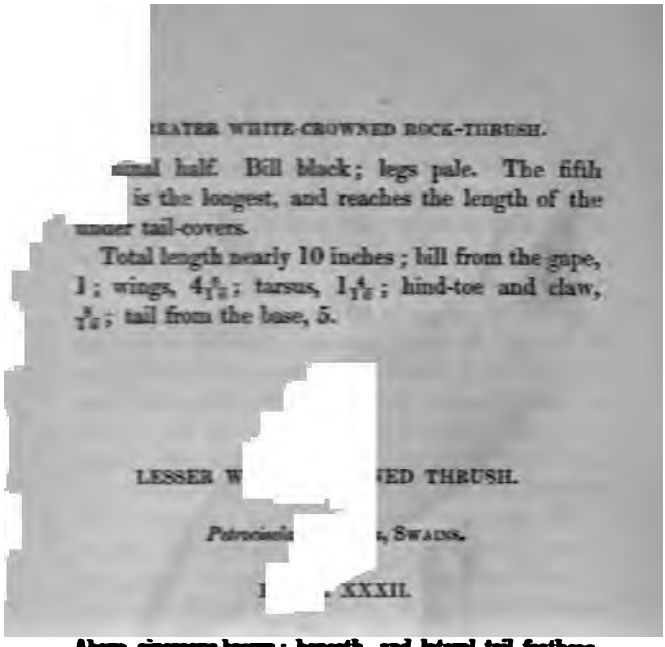
White-crowned Thrush, *Lath. Gen. Hist.* v. 101.

THE Rock Thrushes, forming the genus *Petrocincla*, are the representatives of the stone-chat warblers in their own family circle; and the analogy is so strong, that some recent authors have confounded the one with the other. Like the red-starts *(Phœnicura)*, which they likewise represent, most of the species have rufous on their bodies and tail, with some portions of the head white; the wings are always rounded, and not, like those of the true thrushes, pointed; the tail also is more or less graduated, while in the genuine thrushes it is even. None of this genus have yet been found in America, although it is abundant in Africa and Asia.

The present species is remarkable for its size, no less than for its conspicuous white crown. It might be at first mistaken for one of the mock-birds (*Orpheus*), but its bill is that of a genuine thrush, *i. e.* short and notched.

Although this is by no means an uncommon bird at Senegal, its description only appeared in the last work of Dr. Latham, under the name of the White-crowned Thrush. It is clear, however, that more than one species is there spoken of; the smaller one being probably our next, which very much resembles this in its general colours.

The size of our present species is equal to that of a small thrush, but the tail makes it appear longer. The whole top of the head, from the nostrils to even beyond the nape, is white; each feather having a narrow blackish line on its margin, and another in the middle much stronger, but this latter can only be perceived when the feathers are raised. This white patch reaches, on each side, to the edge of the upper eye-lid, and is not, as in the next species, confined to a stripe in the middle of the crown. The ears, sides of the head, and neck,—the upper part of the back, the wings, and the two middle tail-feathers, are all of a deep uniform brown; and there is a small spot of the same colour, as Dr. Latham well observes, at the tip of the chin. The whole of the under parts, as well as the rump, upper covers, and lateral tail-feathers, are of a deep buff or rufous orange. The outer tail-feather on each side has a narrow external margin of brown at its


ATER WHITE-CROWNED ROCK-THRUSH.
nal half. Bill black; legs pale. The fifth is the longest, and reaches the length of the under tail-coverts.
Total length nearly 10 inches; bill from the gape, 1; wings, 4 1/8; tarsus, 1 1/16; hind-toe and claw, 5/16; tail from the base, 5.
LESSER W ED THRUSH.
Petrocincla , Swains.
XXXII.

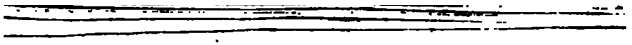
Above cinereous-brown; beneath, and lateral tail feathers, rufous; cere, front, and sides of the head, black; stripe in the middle of the crown white; nuchal collar rufous.

This elegant little thrush is very considerably smaller than the last, which it so much resembles, being not much longer than seven inches. It is also a much rarer species; while, by its close affinity with our *Petrocincla rociferans and *superciliosa*†, it establishes the natural generic union of these three birds, which, in many respects, so closely resemble their prototypes, the red-starts and the stone-chats *(Saxicola)*.**

* Turdus vociferans, Zool. Ill., i. p. 180.—The Reclammeur of Le Vaill., Ois. d'Af. iii. pl. 104.

† Le Janfredric, Le Vaill., Ois. d'Af. iii. pl. 111.

LESSER WHITE CROWNED ROCK THRUSH



Independent of the great difference in the sizes of this and the last, the present species may be known by the back and wing-covers being dark cinereous instead of brown, by the white of the crown being confined to a stripe down its centre, and by the rufous of the throat being extended round the back of the neck, so as to form a nuchal collar, which borders the termination of the black and white on the head; there is also no brown on the chin, and the sides of the head and ears are deep black, instead of brown. The wings only reach as far as the upper tail-covers; the bill is black, and the feet dark brown.

This species measures from seven inches and a quarter to seven and three-quarters, according to the greater or less contraction of the neck. On each side of the head is a broad stripe of black, which commences in front of the head at the nostrils, and extends to the nape,—it includes not only the ears but the eye, which is placed nearly in the middle of it; following this, and in the centre of the crown, is a white stripe which terminates at the nape, but which leaves a black space between it and the eye; these stripes are cut off, as it were, from the grey colour of the back, by a collar formed by a continuation of the rufous on the neck. The back, wing-covers, and edges of the quills are deep cinereous, which colour graduates into buff-orange on the upper tail-covers. The whole of the under plumage, from the chin downwards, is bright and uniform buff-orange or orange-rufous, and the lateral tail-feathers are the

same; the middle pair and margin of the outermost being dark brown as in the preceding species.

Bill from the gape, $\frac{8}{10}$; wings, $3\frac{6}{10}$; tarsus, 1; hind-toe and claw, $\frac{6}{10}$; tail, $3\frac{1}{2}$.

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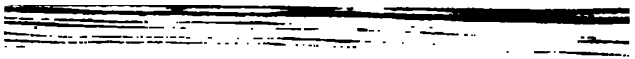
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